COMPACT DISC AUTO CHANGER

# KDC-C301

# SERVICE MANUAL

KENWOOD

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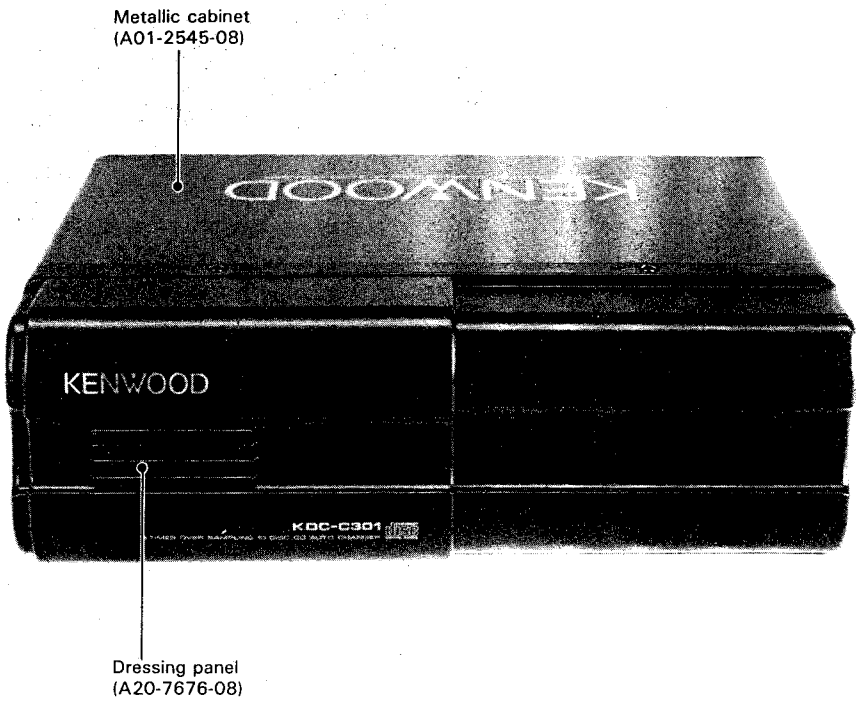


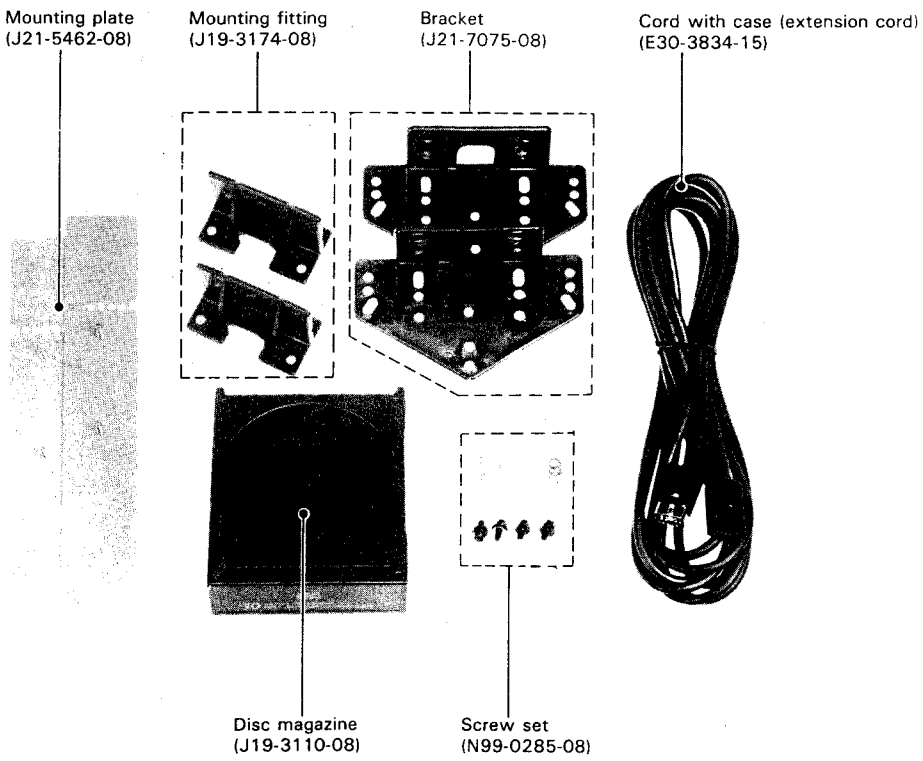


* Refer to parts list on page 55.

# KDC-C301

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## SERVICING NOTES

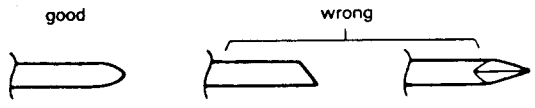
### NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

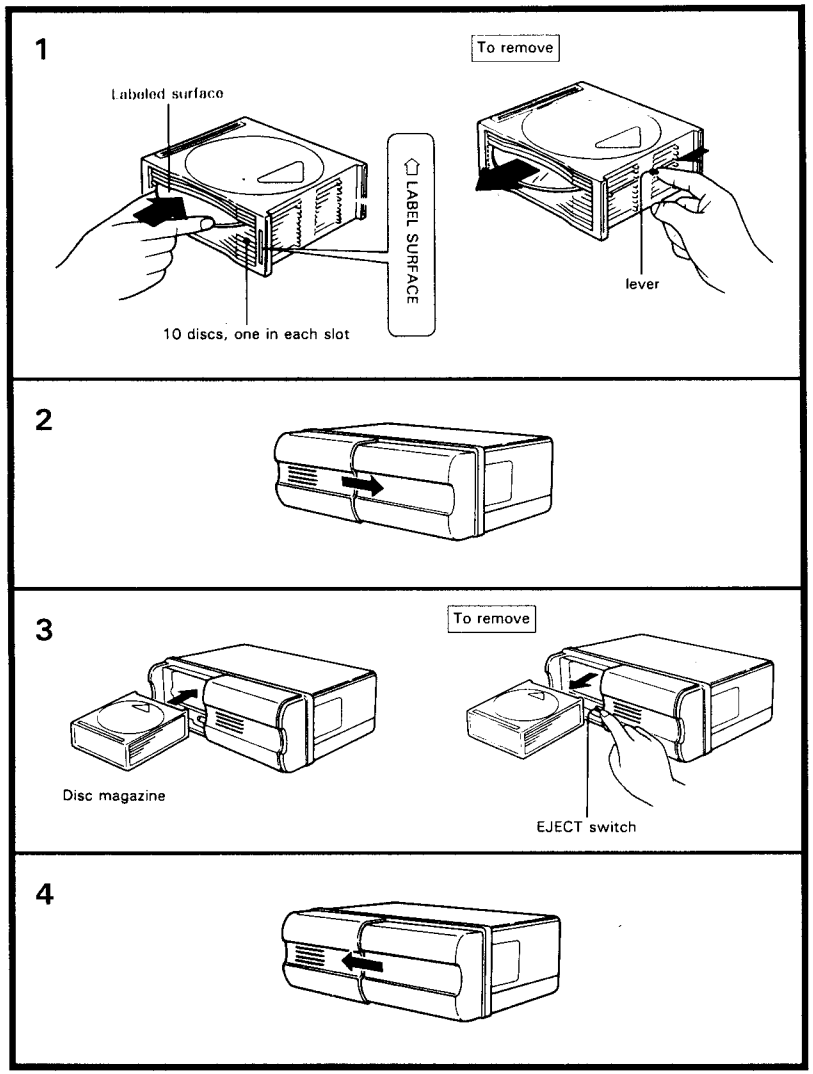
### Flexible Circuit Board Repairing

1. Keep the temperature of the soldering iron at 270° ±10°C during repairing.
   You can maintain the temperature of the soldering iron around 270°C by using the thermal controller as illustrated on the right.
2. Do not touch the soldering iron more than 4 seconds or 3 times on the same conductor of the circuit board.
3. Do not apply force on the conductor when soldering or unsoldering.

**Tip of soldering iron**



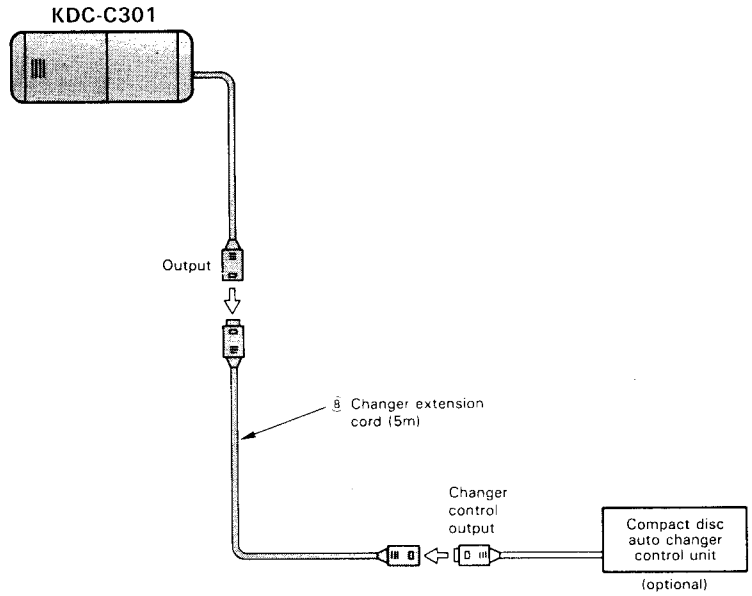
# HOW TO SET A COMPACT DISC




**Use the unit with the door closed**
Otherwise, foreign matter may enter the unit, and contaminate the lens in the player.

# CONNECTIONS

■ For more detailed connection method, please refer to the Instruction Manual supplied with the Compact disc auto changer control unit.



- Do not install an antenna of radio equipment or distribute the antenna cable near the changer output cable, for this could cause malfunction with this unit.

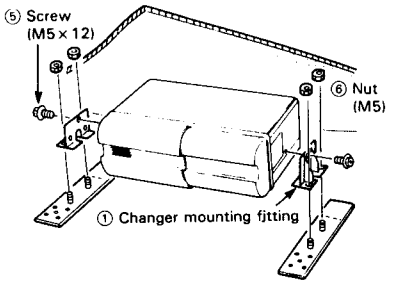
# INSTALLATION

## Mounting diagram 1

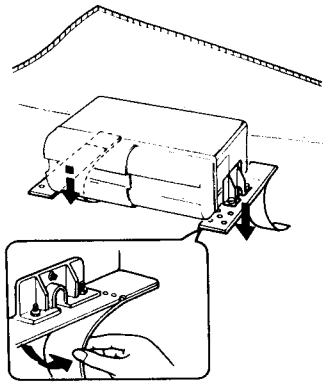
* If the installation is not secure, sound skipping may occur. For secure installation, proceed the Mounting diagram 2.

### Horizontal

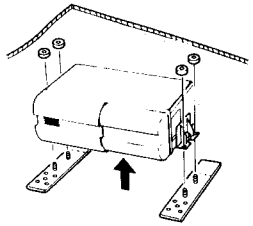
**1** Place the holes of the ① changer mounting fitting upon the protrusions on the bottom of the main unit. Temporarily fix it on the ② changer mounting plate.



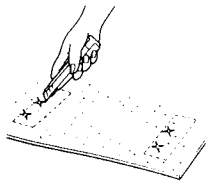

**2** Peel off the released paper of the ② changer mounting plate and affix it on the mounting place under the rivet.



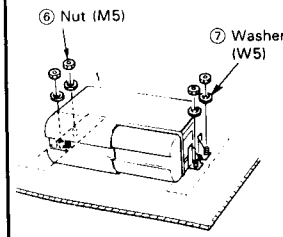
**3** Detach the unit only.



**4** Cut the carpet at the screw part of the ② changer mounting plate.

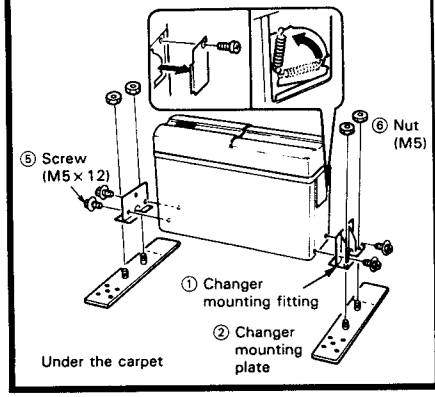


**5** Fix the changer with ⑥ nuts.

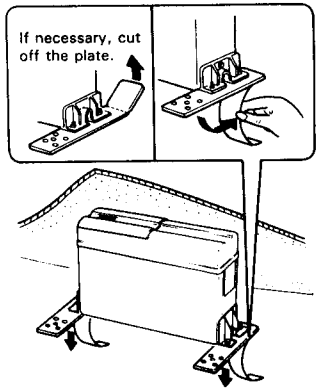



### Vertical

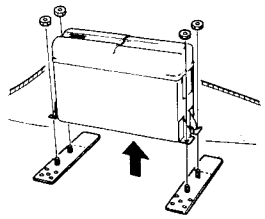
**1** Remove the springs on both sides of the main unit, and hang them again (as shown in the figure). Attach the ① changer mounting fitting on the changer and temporarily fix it on the ② changer mounting plate.



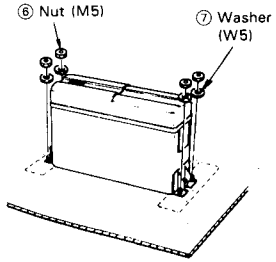

**2** Peel off the released paper of the ② changer mounting plate and affix it on the mounting place under the rivet.




**3** Detach the unit only.



**5** Fix the changer with ⑥ nuts.

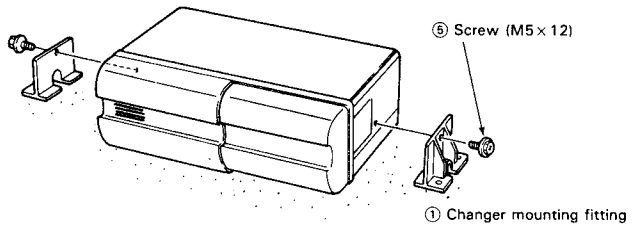


# INSTALLATION

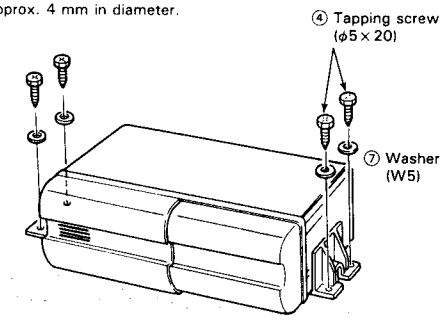
## Mounting diagram 2

### Horizontal

**1** Place the holes of the ① changer mounting fitting upon the protrusions on the bottom of the main unit.

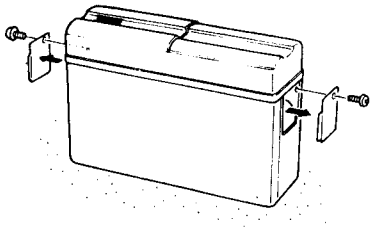



**2** Drill bolt holes approx. 4 mm in diameter.

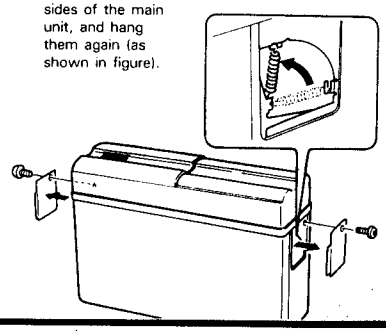



### Vertical

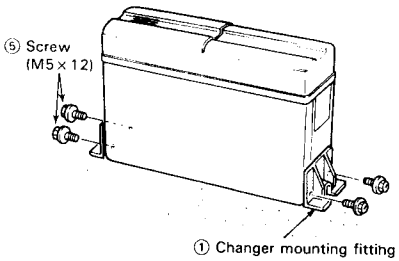
**1**



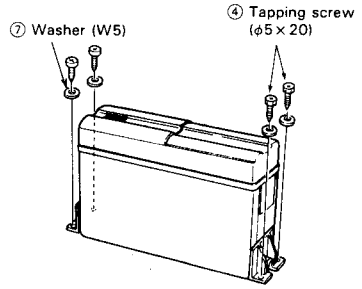
**2** Remove the springs on both sides of the main unit, and hang them again (as shown in figure).



**3**




**4** Drill bolt holes approx. 4 mm in diameter.

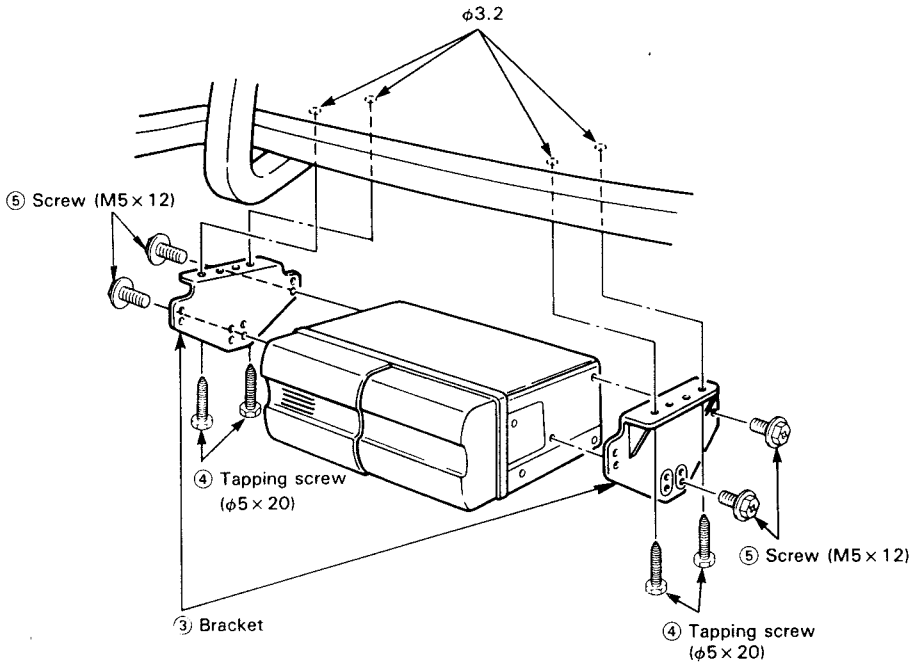



**CAUTION**

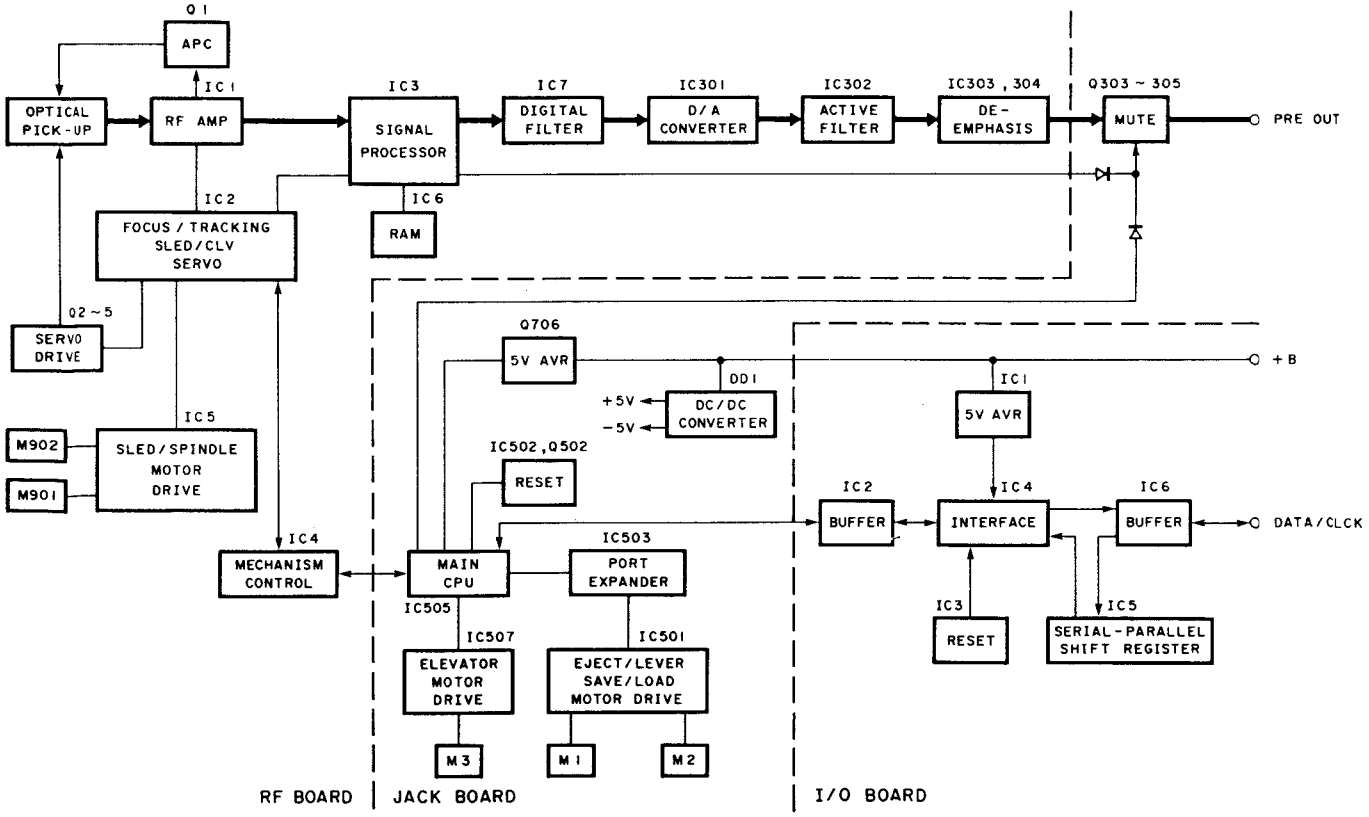
When making the hole, make sure not to damage the fuel tank, brake tube, wiring harnesses, etc. on the other side.

# HOW TO INSTALL THE CHANGER

## Mounting diagram 3
**(In case of hanging in the trunk)**




# BLOCK DIAGRAM

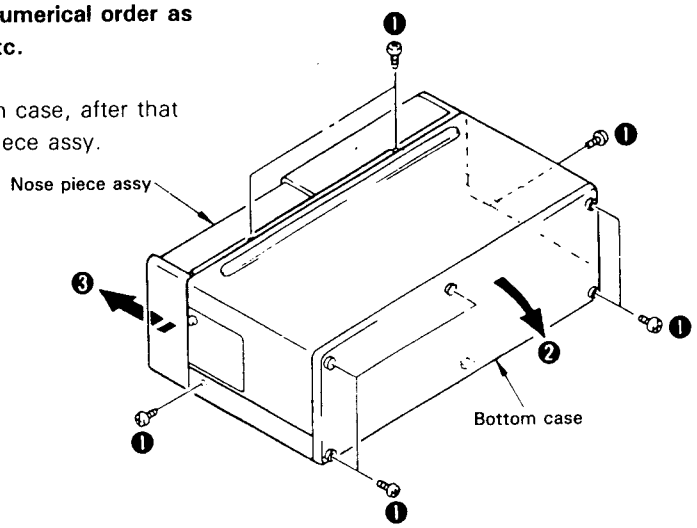


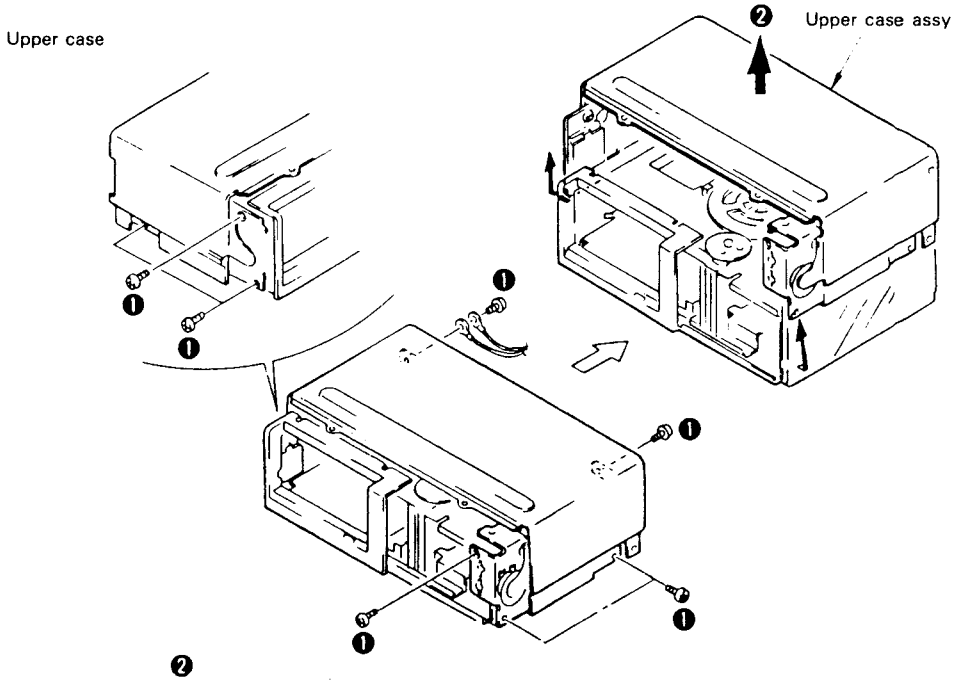

KDC-C301(K)

# DISASSEMBLY FOR REPAIR

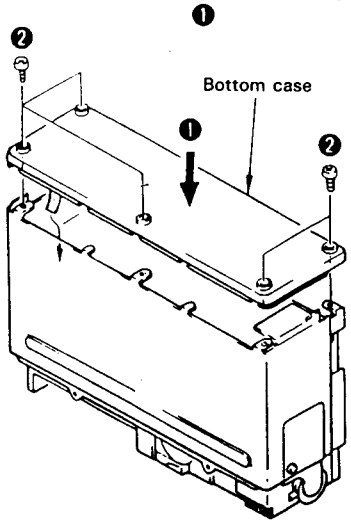
- **Remove parts in numerical order as indicated by ❶, etc.**

**Bottom Case:**
Remove the bottom case, after that remove the nose piece assy.




**Precaution on assembling:**
First install the bottom case, next the nose piece assy.

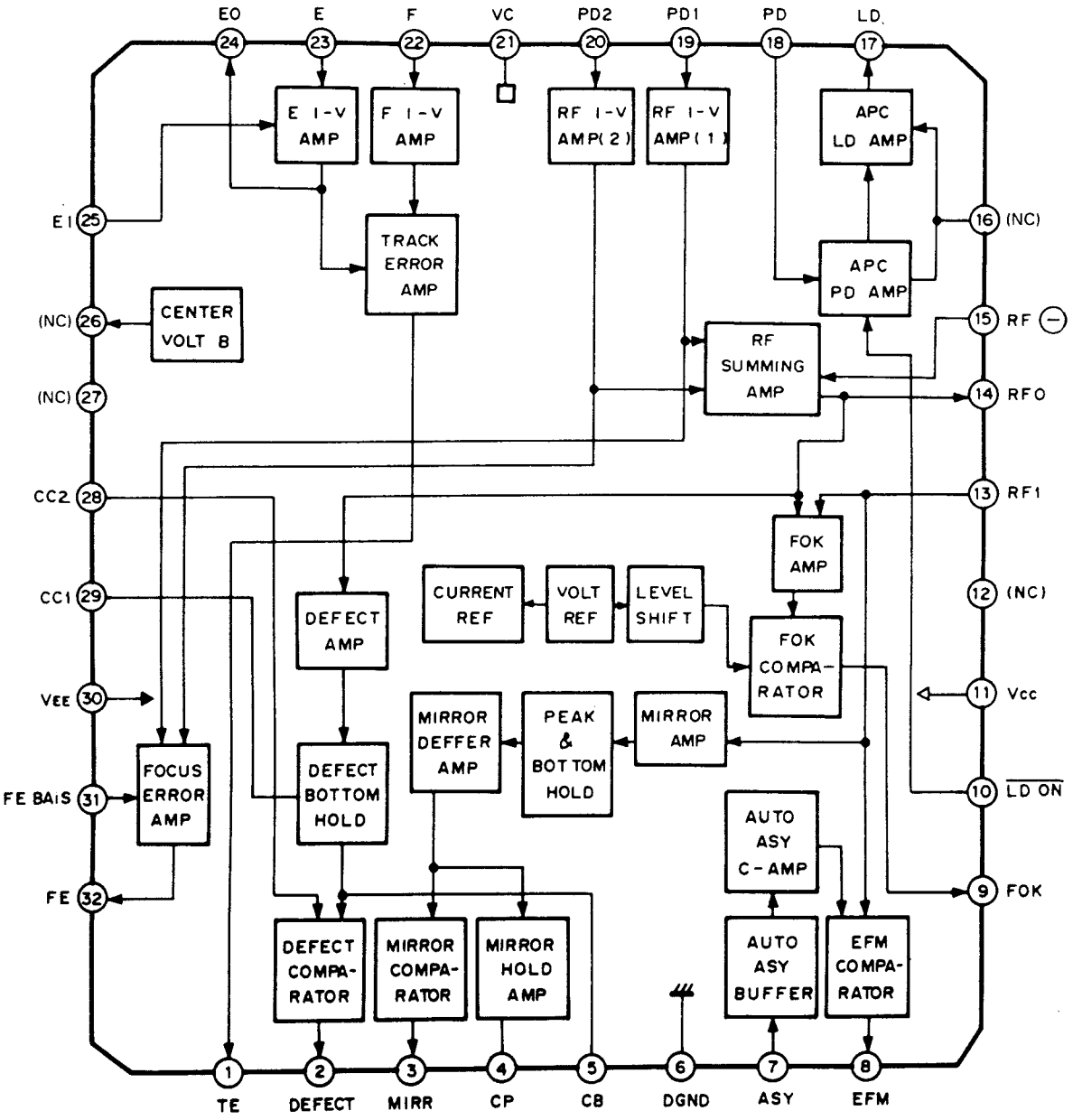


# CIRCUIT DESCRIPTION

## IC1: CXA1081Q RF amplifier

The CXA1081Q supplies the following functions as required for controlling the RF amp in the compact disc player.

- RF amp
- Focusing error amp
- Tracking error amp
- APC circuit
- Auto asymmetry control amp
- Focus OK detection circuit
- Mirror detection circuit
- Defect detection circuit
- EFM comparator



# CIRCUIT DESCRIPTION

**Explanation of terminals**

| Terminal No. | Terminal name | I/O | Function |
|---|---|---|---|
| 1 | TE | O | Tracking error amp output pin. |
| 2 | DEFECT | O | Defect comparator output pin. (DC voltage: connected to a 10 kΩ load). |
| 3 | MIRR | O | Mirror compartor output pin. (DC voltage: connected to a 10 kΩ load). |
| 4 | CP | I | Mirror hold capacitro output pin. Mirror comparator non-invert input. |
| 5 | CB | I | Defect bottom hold capacitor connect pin. |
| 6 | DGND | — | Connected to GND when using a positive (+)/negative (−) dual-voltage power supply. Connected to GND (VEE) when using a single-voltage power supply. |
| 7 | ASY | I | Auto asymmetry control input pin. |
| 8 | EFM | O | EFM comparator output pin. (DC voltage: connected to a 10 kΩ load). |
| 9 | FOK | O | FOK comparator output pin. (DC voltage: connected to a 10 kΩ load). |
| 10 | $\overline{\text{LD ON}}$ | I | LD ON/OFF select pin. (DC voltage: when LD ON). |
| 11 | Vcc | — | Positive power supply. |
| 13 | RFI | I | Input pin of the C-coupled signal output from the RF summing amp. |
| 14 | RFO | O | Check point of eye pattern for the RF summing amp output pin. |
| 15 | RF ⊖ | I | RF summing amp feedback input pin. |
| 16 | N.C. | — | |
| 17 | LD | O | APC LD amp output pin. (DC voltage: PD open in N-sub mode) |
| 18 | PD | I | APC PD amp input pin. (DC voltage: open) |
| 19 | PD1 | I | RF I-V amp (1) invert input pin. Current input by connecting to PIN diode A + C. |
| 20 | PD2 | I | RF I-V amp (2) invert input pin. Current input by connecting to PIN diode B + D. |
| 21 | VC | — | Connected to GND when using a positive (+)/negative (−) dual-voltage power supply. Connected to VR (pin 14) when using a single-voltage power supply. |
| 22 | F | I | F I-V amp invert input pin. Current input by connecting to PIN diode F. |
| 23 | E | I | E I-V amp invert input pin. Current input by connecting to PIN diode E. |
| 24 | EO | O | E I-V amp output pin. |
| 25 | EI | I | E I-V amp feedback input pin. For E I-V amp gain adjustment. |
| 26 | N.C. | — | |
| 27 | N.C. | — | |
| 28 | CC2 | I | Input pin of the C-coupled signal output from the defect bottom hold. |
| 29 | CC1 | O | Defect bottom hold output pin. |
| 30 | VEE | — | Connected to the negative power supply when using a positive (+)/negative (−) dual-voltage power supply. Connected to GND when using a single-voltage power supply. |
| 31 | FE BIAS | I | Bias pin at the focus error amp non-invert side. For CMR adjustment of the focus error amp. |
| 32 | FE | O | Focus error amp output pin. |

# CIRCUIT DESCRIPTION

## IC2: CXA1182Q Servo signal processor for the CD

### General

The CXA1082AQ is a bipolar IC developed for servo control in Compact Disc players.

### Features

- Operates on a signal +5 V power supply as well as on a ±5 V dual-voltage power supply.
- Low power consumption (165 mW with ±5 V, 100 mW with +5 V).
- Same servo function as CX20108 (focusing, tracking, sled servo)
- Built-in auto sequencer.
- Built-in spindle servo LPF.
- Built-in loop filter and VCO for an EFM clock generating PLL.
- A minimum of external parts required.
- Sled overrun prevention circuit.
- Disc defect treatment circuit.
- Anti-shock circuit
- Linear motor feed for high-speed access.
- Shared use of a serial data bus with the CX23035 and CXD1135Q.
- The microprocessor and software both have upward compatibility with the CX20108.
- The pulse height of the focusing search, track jump, and sled kick can be set with externally connected resistors.

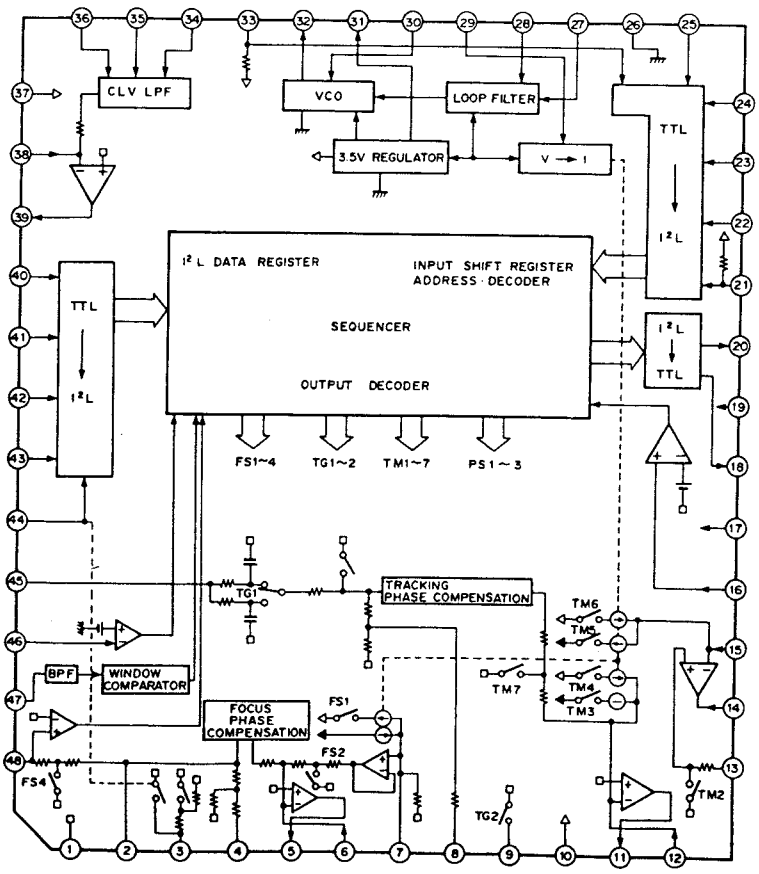
### Functions

- Focusing servo control
- Tracking servo control
- Sled servo control
- Spindle servo
  Low Pass Filter, drive amplifier
- EFM clock generating PLL
  Loop filter: 8.64 MHz VCO
- Auto sequencer
  Incorporating a RAM

### Structure

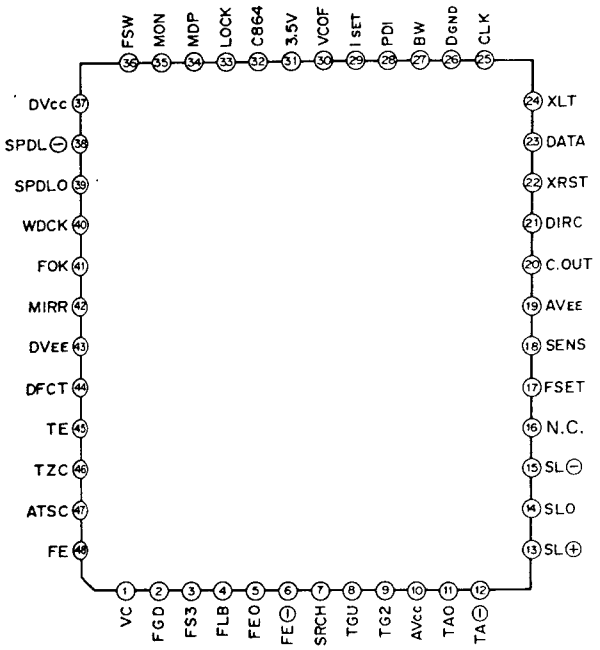
Bipolar silicon monolithic IC

### Block diagram



# CIRCUIT DESCRIPTION

## Pin configuration




## Terminal explanations

| Terminal No. | Terminal name | Function |
|---|---|---|
| 2 | FGD | To lower the high frequency gain of the focus servo, insert a capacitor between this pin and pin 3. |
| 3 | FS3 | The high frequency gain of the focus servo is selected by switching FS3 ON/OFF. |
| 4 | FLB | Time constant external connect pin, for boosting the focus servo low frequencies. |
| 5<br>11<br>14<br>39 | FEO<br>TAO<br>SLO<br>SPDLO | Power transistor drive op amplifier output pins. |
| 6 | FE⊖ | Focus amplifier inverted input pin. |
| 7 | SRCH | Time constant external connect pin, for creating the focus search waveform. |
| 8 | TGU | Time constant external connect pin, for selecting the tracking high frequency gain. |
| 9 | TG2 | Time constant external connect pin, for selecting the tracking high frequency gain. |
| 12 | TA⊖ | Tracking amplifier inverted input pin. |
| 13 | SL⊕ | Sled amplifier non-inverted input pin. |
| 15 | SL⊖ | Sled amplifier inverted input pin. |
| 16 | N.C. | — |
| 17 | FSET | Setting pin for the focus tracking phase peak value compensation, and fo of the CLV LPF. |
| 18<br>20 | SENS<br>C.OUT | Output pins for an interface with a microprocessor. |
| 21<br>22<br>23<br>24<br>25<br>33 | DIRCT<br>XRST<br>DATA<br>XLT<br>CLK<br>LOCK | Input pins for an interface with a microprocessor.<br>A 47-kohm pull-up resistor is only incorporated in pins 21 and 33. |
| 27 | BW | Loop filter time constant external connect pin. |
| 28 | PDI | Input pin for the phase comparator output PDO of CXD23035/CXD1135. |
| 29 | ISET | Inputs a current which determines the level of the focus search, track jump, and sled kick. |
| 30 | VCOF | The self-advancing frequency of the VCO is almost proportional to the resistance between this pin and pin 31. |
| 32 | C864 | 8.64 MHz VCO output pin. |
| 34 | MDP | CXD23035/CXD1135 MDP pin connect pin. |
| 35 | MON | CXD23035/CXD1135 MON pin connect pin. |
| 36 | FSW | LPF time constant external connect pin, for the CLV servo error signal. |
| 38 | SPDL⊖ | Spindle drive amplifier inverted input pin. |
| 40<br>41<br>42<br>44 | WDCK<br>FOK<br>MIRR<br>DFCT | Input pins for an interface with a microprocessor. |
| 45 | TE | Tracking error signal input pin. |
| 46 | TZC | Tracking zero-cross comparator input pin. |
| 47 | ATSC | Window comparator input pin for ATSC detection. |
| 48 | FE | Focusing error signal input pin. |

# CIRCUIT DESCRIPTION

### Explanation on the Functions of the Terminals of IC503 CX7991

| Terminal No. | Explanation on Terminal |
|---|---|
| 1~8 | Parallel output terminal which takes in and outputs the condition of the internal register in the strobe signals. When the set signal is entered, it outputs "1"; when the reset signal is entered, it outputs "0". |
| 9,11~13 | Parallel output terminal which takes in and outputs the condition of the internal register in the strobe signals. When the set or reset signal is entered, the outputs is in the high impedance and the unit is in the output condition with the strobe signals. |
| 14 | Serial data output terminal. |
| 15 | Set signal input terminal which is "L" active. When this terminal is set to "L", the latch is set regardless of the condition of the internal register, and the unit outputs "1" to the terminals 1~8, and the terminals 9, 11~13 are in high impedance. |
| 16 | Reset signal input terminal which is "L" active. When this terminal is set to "L", the latch is set regardless of the condition of the internal register, and the unit outputs "0" to the terminals 1~8, and the terminals 9, 11~13 are in high impedance. |
| 17 | Strobe signal input terminal which is "H" active. When this terminal is set to "H", the condition of the internal register is transferred to latch. |
| 18 | Serial data input terminal which inputs the serial date from an external unit. |
| 19 | Clock signal input terminal which takes in the data at start-up. |
| 10 | GND |
| 20 | Power source |

### SUB CIRCUIT UNIT (X13-6840-00)

| Ref. No. | Use and Function | Operation and Condition |
|---|---|---|
| IC1 | 5 V AVR | |
| IC2 | BUFFER | HEX. INVERTER |
| IC3 | RESET | Power OFF reset |
| IC4 | INTERFACE | DATA IN/OUT |
| IC5 | SHIFT REGISTER | SERIAL → PARALLEL |
| IC6 | BUFFER | |
| Q1 | DRIVE | For Q2 |
| Q2 | CH-ON | |
| Q3 | RESET IN | |
| Q4 | MUTE SW | |
| Q5 | DISP SW | |
| Q6, 7 | ACC SW | |
| Q8 | CH-RESET | |
| Q9 | CH-MUTE | |

# MECHANISM DESCRIPTION

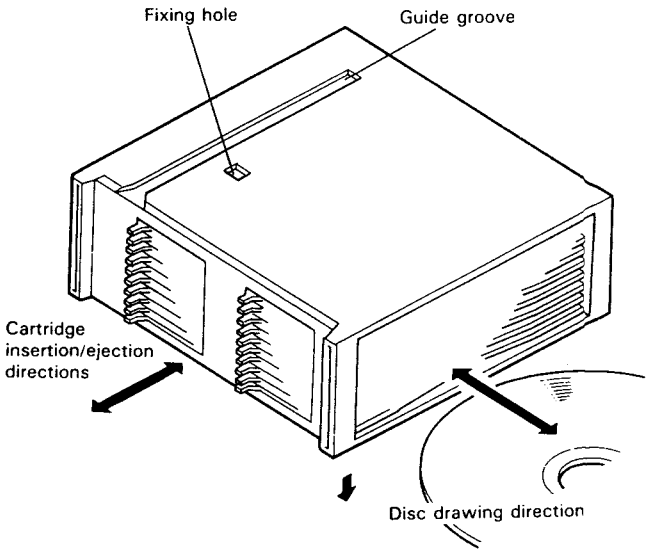
## 1. Structure of mechanism

Roughly speaking, the mechanism consists of the following four sections.

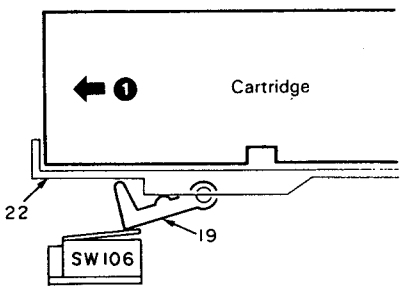
(1) Section which loads, ejects and holds the cartridge.
(2) Section which pulls out a disc from the cartridge and places it above the spindle motor. (This part also performs cartridge unloading, which consists of returning the disc to the specified position in the cartridge.)
(3) Section which moves up/down the section mentioned in (2), in order to place the disc on the turntable and to move it to the specified position of the cartridge when unloading it.
(4) Section consisting of the sled motor, spindle motor and pickup used for playing the disc.

## 2. Cartridge loading and ejection operations

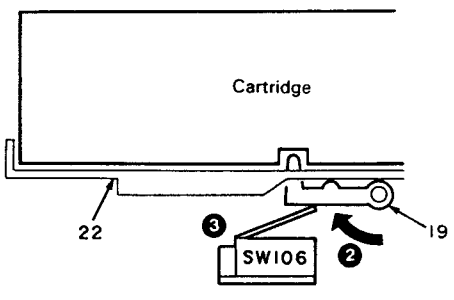
A guide groove and a square hole are located on the bottom side of the cartridge.




(1) When the cartridge is inserted, the projection on the mechanism (roller) is applied on the guide groove, guided by it and pushed in (❶).
When the projection is pushed in until the specified position, its hook is engaged with the position of the fixing hole so the cartridge is fixed (❷).

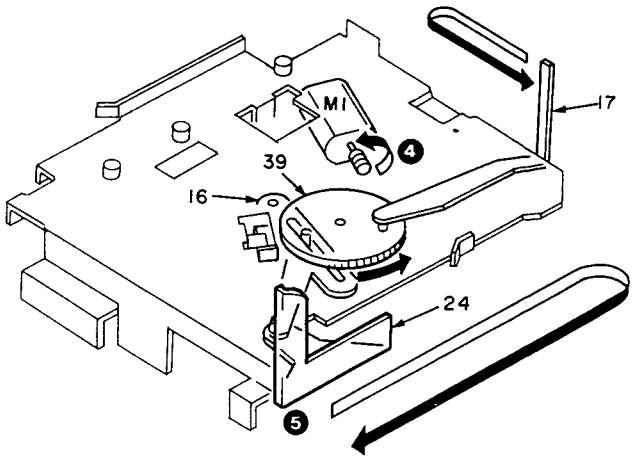



The cartridge insertion is a manual operation, and it is fixed by the hook which is moved up when the lever (22) is pushed. When the hook moves up, it turns ON a switch (SW106) interlocked with it and the presence of the cartridge is detected by the switch (❸).

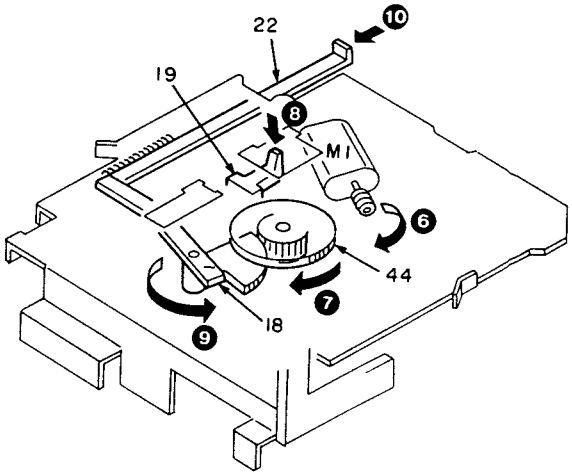


# MECHANISM DESCRIPTION

When the switch (SW106) is turned ON for the first time, the motor (M1) rotates once in the CW direction (❹). This CW rotation of the motor (M1) causes the lever (16), which is used to place the disc completely inside the cartridge, to reciprocate once in front of the disc drawing slot on the cartridge (❺).




(2) The cartridge ejection is performed by the CCW rotation of the motor (M1) (❻). The motor rotation is transmitted to the cam (44) (❼), the hook (19) is disengaged from the fixing hole on the cartridge by the movement of the cam surface (❽), a force in the ejection direction is applied to the lever (22) by the Lever Ass'y (18) interlocked with the cam (❾), and the cartridge is pushed out (❿).




**Functions of the motor and switches**

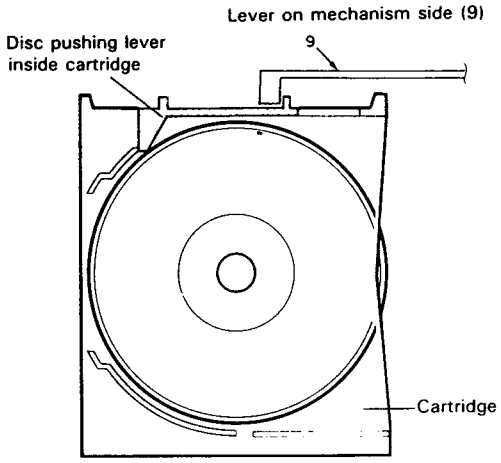
| | |
|---|---|
| Motor (M1): | CW rotation moves the lever used to place the disc completely in the cartridge. |
| Switch (SW105): | Detects the home position of the lever (16) by means of the cam (39). |
| Motor (M1): | CCW rotation rotates the cam (44) used to push out the cartridge and disengage the hook. |
| Switch (SW106): | Detects the presence of cartridge (LOADING/EJECT). |
| Switch (SW107): | Detects the home position of the ejection cam. |

# MECHANISM DESCRIPTION

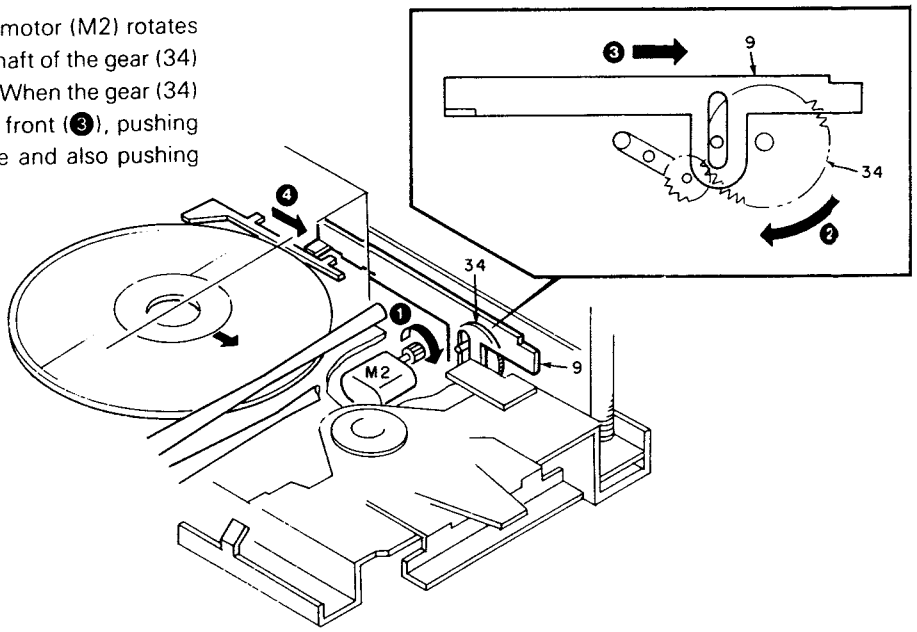
## 3. Disc loading and ejection with respect to the cartridge

A lever for pushing out the disc is located inside the cartridge, and two sections of the lever are projected outside the cartridge.

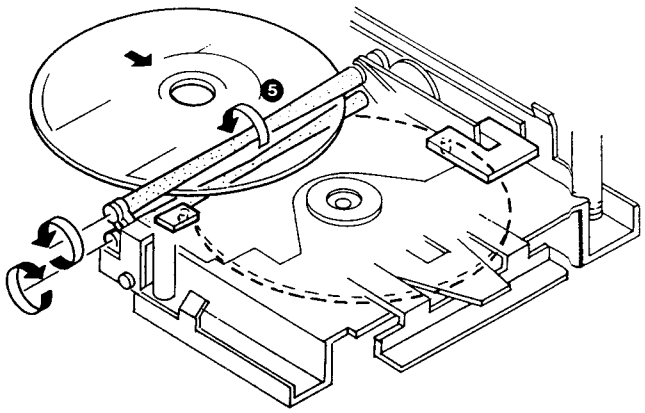
The lever (9) is placed in front of one of the projections. However, it can also move up/down when all discs are inside the cartridge or when a disc has been loaded on the mechanism.




For loading a disc on the mechanism, the motor (M2) rotates (❶), also rotating the gear (34) (❷). The shaft of the gear (34) is inserted in the long hole on the lever (9). When the gear (34) rotates, the lever (9) is pushed toward the front (❸), pushing the disc pushing lever inside the cartridge and also pushing the disc toward the front (❹).

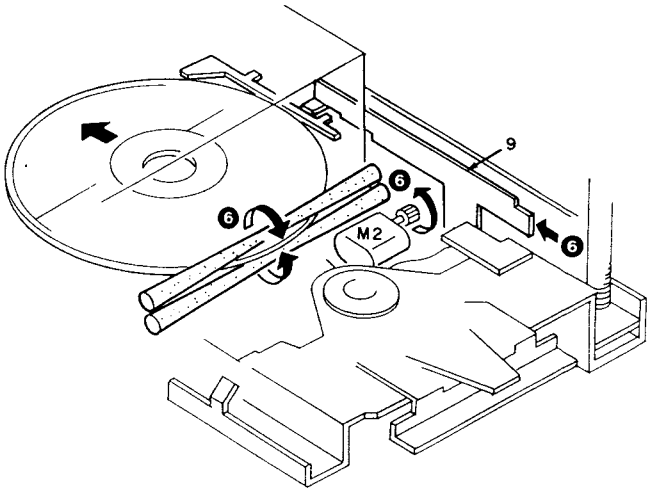


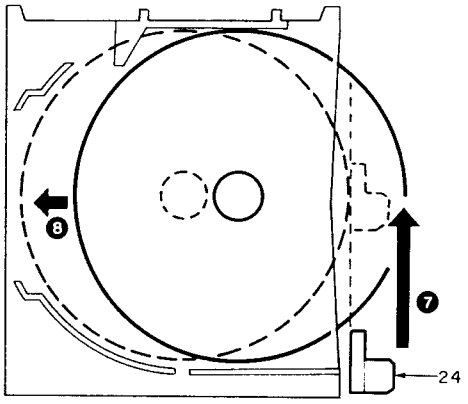

By means of a pair of rollers inside the mechanism which are rotated by the motor (M2), the disc is transported to the specified position with the same procedure as the KDC-80 and 90R (❺).



# MECHANISM DESCRIPTION

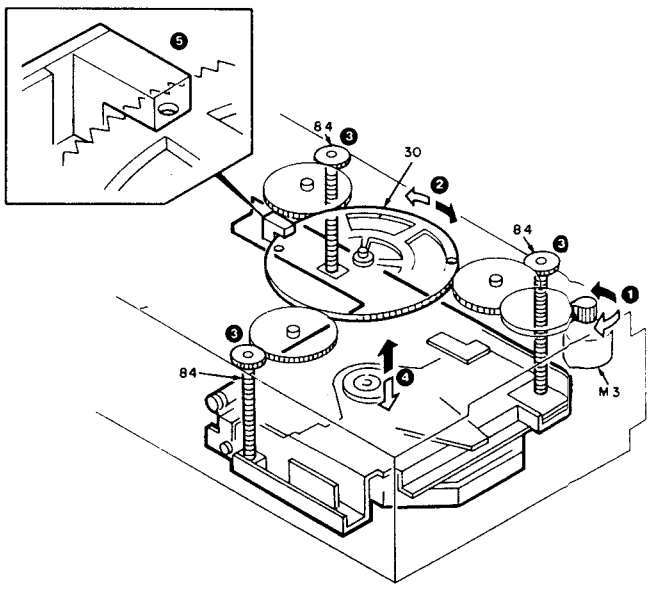
The disc is ejected from the mechanism to the cartridge in the reverse way to the above operations (❻). However, the lever (9) on the mechanism side moves only in one direction so it cannot return the disc pushing lever inside the cartridge. The disc pushing lever is returned by the disc itself. At the final stage on the rollers, it is pushed into the final position by the lever provided on the opening surface of cartridge (❼) (❽).
(Motor (M1) = CW, slider ass'y (24) moved)



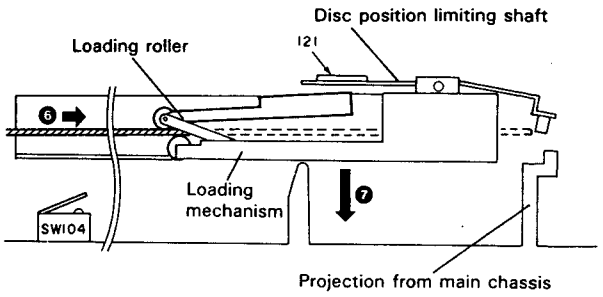

## 4. Up/down movement of loading mechanism

The initial position of the loading mechanism is the PLAY position, with which the disc is placed on the spindle.
The whole of the mechanism is moved up/down by the motor (M3) (❶), the rotation of which is transmitted through the gear (62) (❷), and to the 3 screws (84) (❸) (❹).
The loading positions of the 10 discs are detected by detecting the 2 holes of the gear (30) (❺).
(Motor (M3) CCW→holes detected).

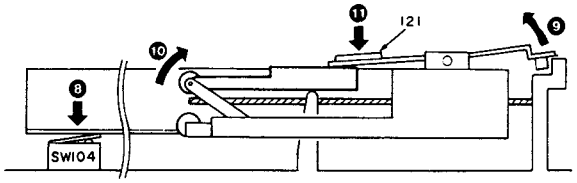


# MECHANISM DESCRIPTION

After the disc is loaded in the specified position (❻), the loading mechanism moves down (❼), and enters the PLAY condition when the switch (SW104) is turned ON (❽). At this time, the disc insertion position limiting shaft (❾) and roller are separated up and down from the disc (⓫).



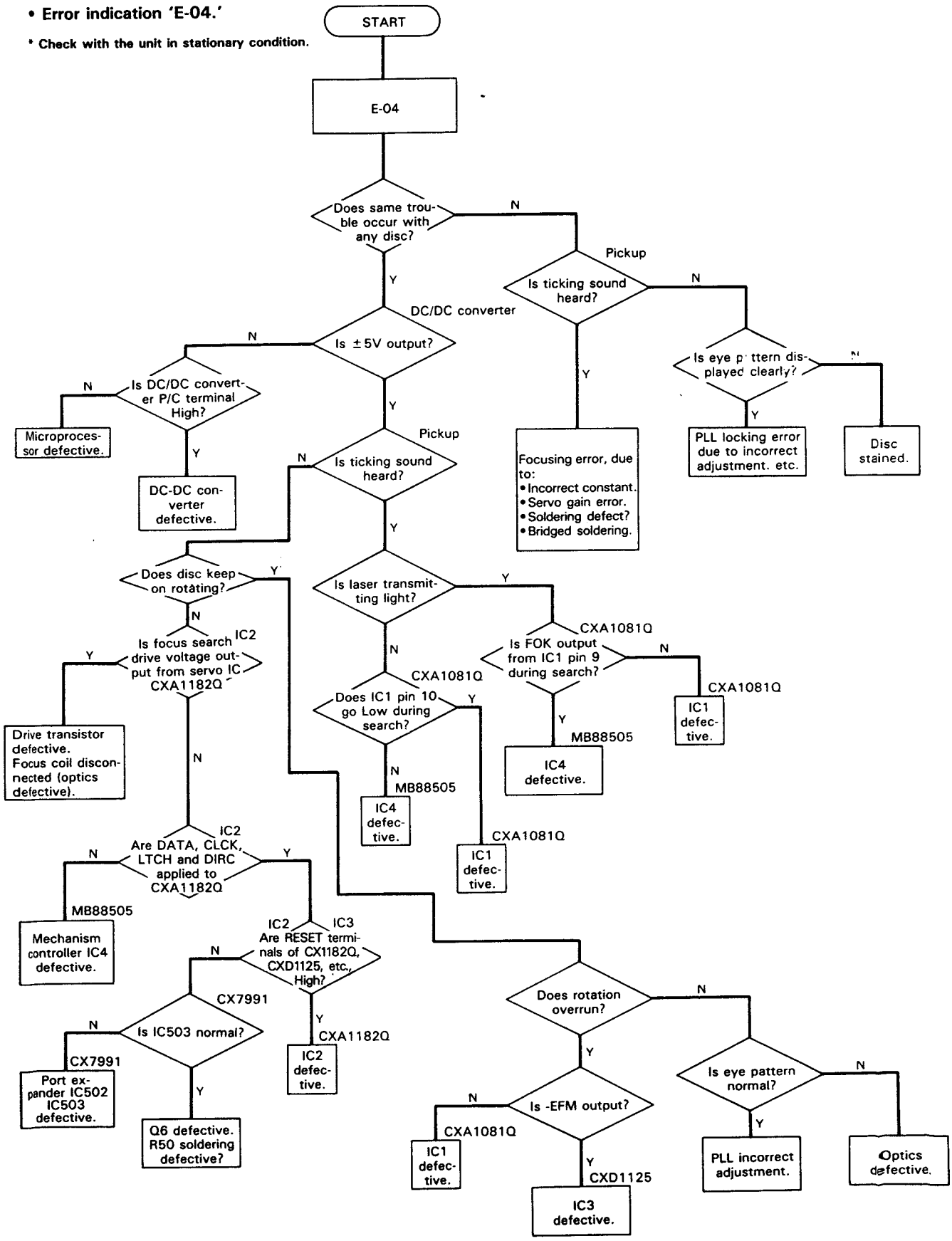

The actual playback becomes possible when the plate (121) is attracted magnetically to the turntable on the spindle motor. For ejecting the disc, the loading mechanism is moved up by the loadlng and empty operation. The cartridge position is detected when the switch (SW102) is turned ON.
The optics system design such as the disc spindle is the same as the KDC-80 and 90R including the constants used.



# TROUBLESHOOTING

- **Error indication 'E-04.'**

* **Check with the unit in stationary condition.**



# ADJUSTMENT

## [LARGE ELEVATOR GEAR POSITION (LOCATION 10.5) ADJUSTMENT]

1. Move the middle elevator gear in the arrowed direction and place the top plate at the position where there are no clearances between the bottom face of the top plate and the top edges of the three claws.

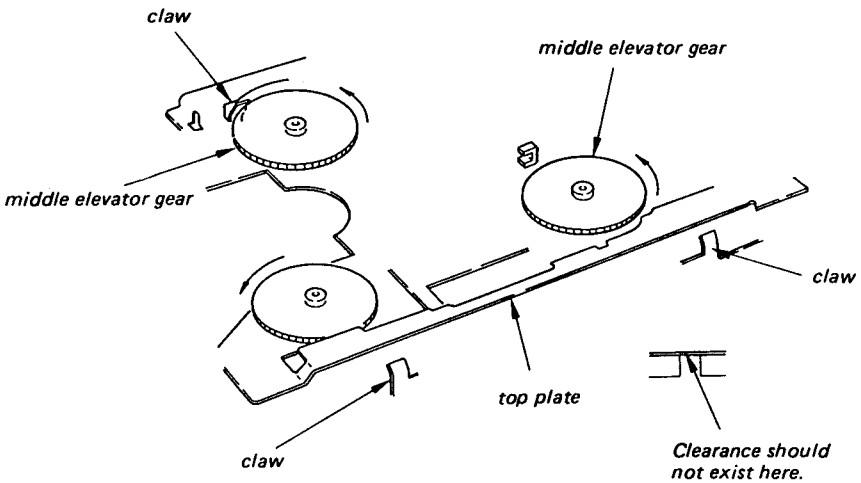
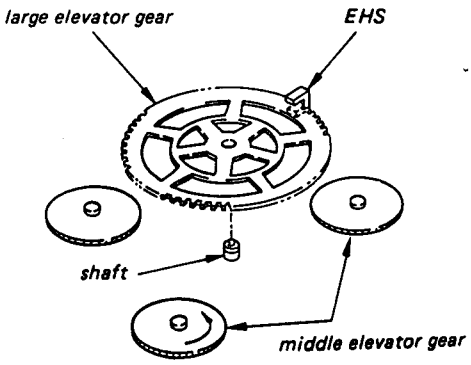
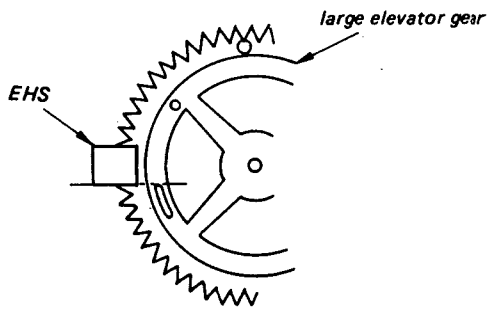



*Fig. 1*

2. Put the large elevator gear on the shaft of the top plate taking care not to move the middle elevator gears. The large elevator gear should be fastened by the top plate and EHS protrusion and should position in the relationship with the EHS as shown in Fig. 1.
3. After the placing, fix the large elevator gear with a retaining ring.




***Edge of EHS protrusion and edge of protrusion on the large elevator gear should be aligned as shown.***

*Fig. 2*

# ADJUSTMENT

[HOMING ADJUSTMENT]

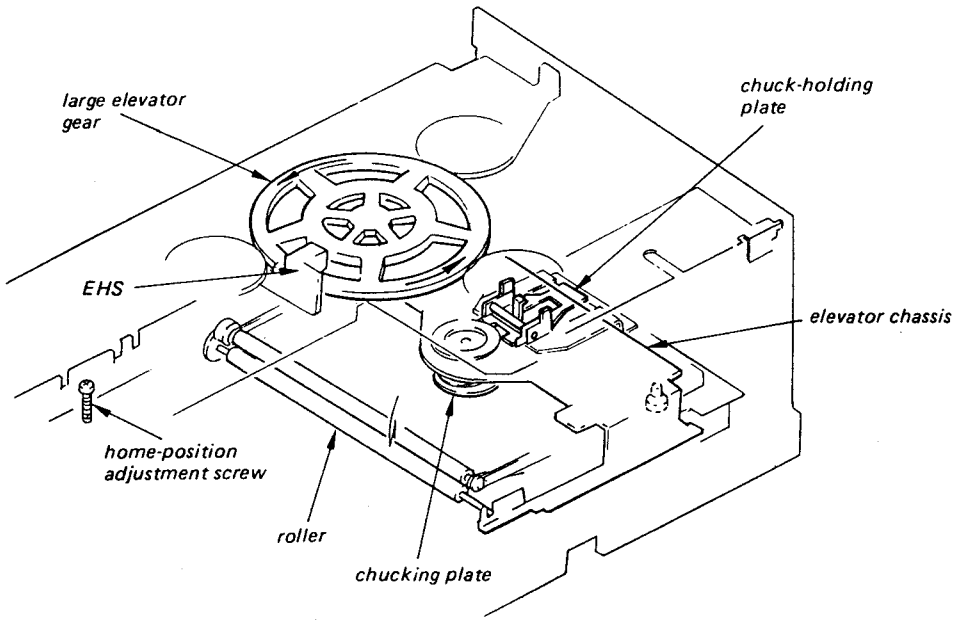



*Fig. 3*

1. Put the disk magazine containing several disks in the changer.
2. Initialize the changer.
3. Pull off the first disk.
4. Wait until the elevator lowers down to the home position.
5. Move the large elevator gear so that the clearance between the inner edge face of the chucking plate and edge of the top face of the stainless chuck-holding plate becomes in 1.5 mm (1/16 inches) as shown in Fig. 4.
6. Make a dot marking on the large elevator gear as shown in Fig. 5.
7. Re-put the first disk in the disk magazine.
8. Pull off the first disk again. The dot marking made in the step 6 above should position as shown in Fig. 5.
9. Fine adjust the position of the large elevator gear with the home-position adjustment screw shown in Fig. 3.

| Adjustment Screw Position | Large Elevator Gear Position Displacement |
|---|---|
| One (1) turn in clockwise | 15 (fifteen) degrees clockwise |
| One (1) turn in counterclockwise | 15 (fifteen) degrees counterclockwise |

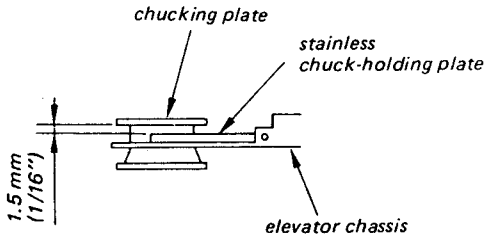
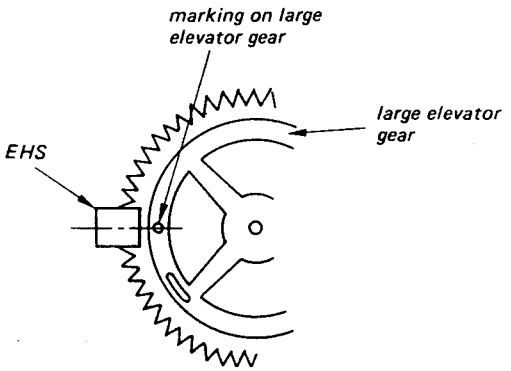



*Fig. 4*




*Note:*
*Make a marking near and on the center line of the EHS sensor.*

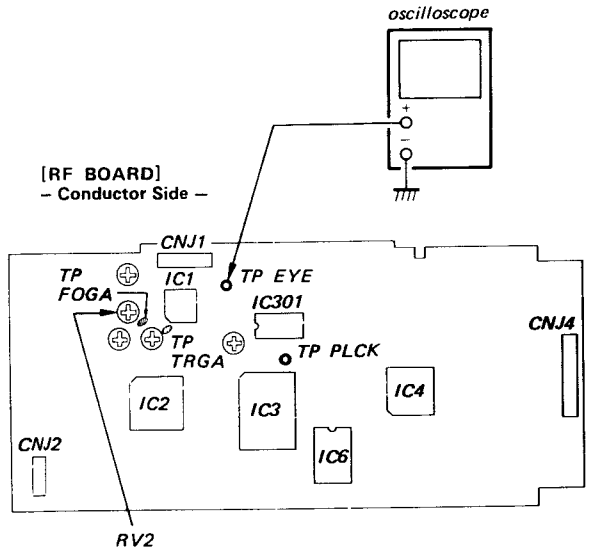
*Fig. 5*

# ADJUSTMENT

1. Perform adjustments as given.
2. Be sure to use the disc "YEDS-18".
3. Unsolder the small shield plate from the RF board.
4. Power supply voltage: DC 14.4 V (more than 2A).

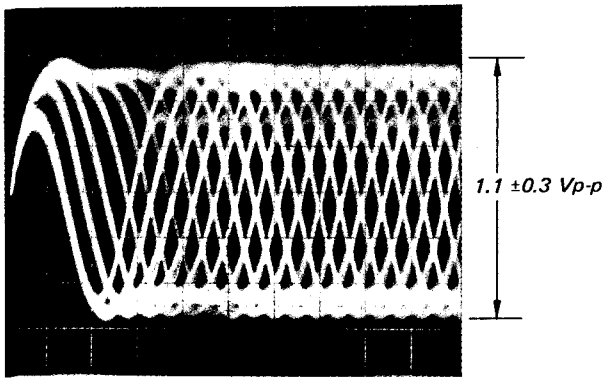
## 1. Focus Offset Adjustment

Procedure:



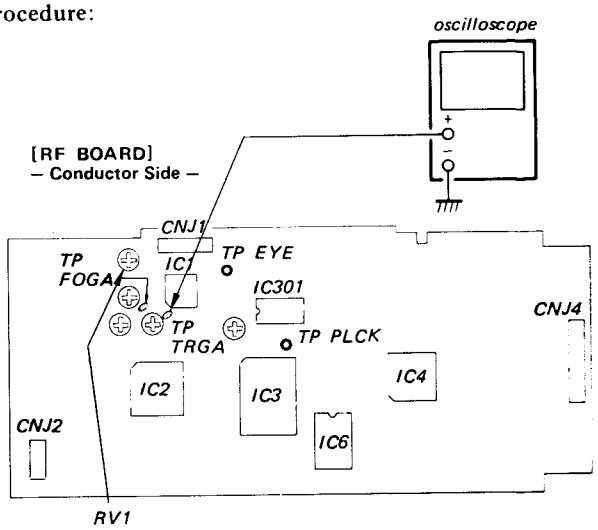

1. Connect the oscilloscope to RF board test point EYE.
2. Put the set into play mode by loading the disc.
3. Adjust main board RV2 so that the oscilloscope waveform eye pattern is good.
   A good eye pattern means that the diamond shape ( ◇ ) in the center of the oscilloscope can be clearly distinguished.

*Volt/Div: 200 mV*
*Time/Div: 0.5 µSec*




## 2. Tracking Offset Adjustment

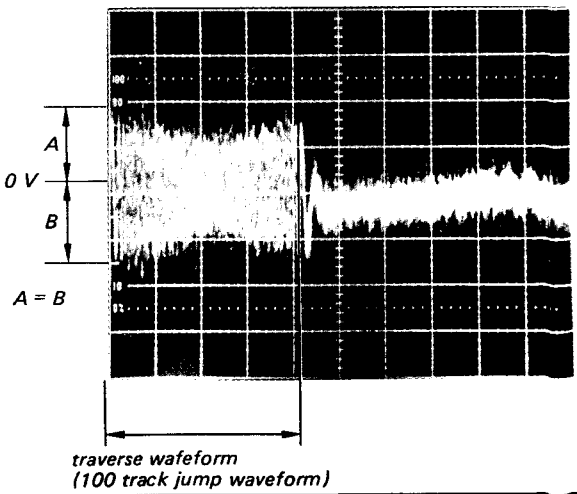
Procedure:




1. Connect the oscilloscope to RF board test point TRGA, pin (1) of IC1.
2. Put the set into play mode by loading the disc.
3. Press the |◀◀ or ▶▶| (or ◀◀ , ▶▶ ) button, then check the traverse waveform*.
4. Adjust RV1 (main board) so that oscilloscope reading is symmetrical in relation to 0 V.

*Traverse waveform: This is the tracking error waveform appears when crossing the track.

*Volt/Div: 0.5 V*
*Time Div: 2 mSec*
*Center 0 V*



# ADJUSTMENT

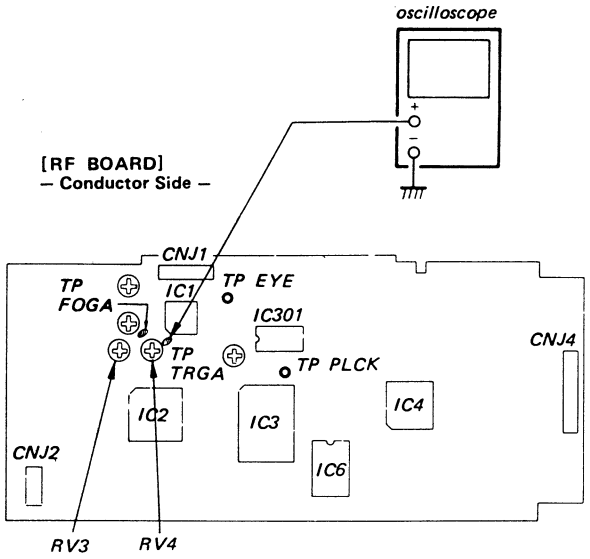
### 3. Tracking Gain Adjustment (coarse adjustment)

This adjustment is to be performed when replacing the following parts.

- Optical Pick-up Block
- RV4

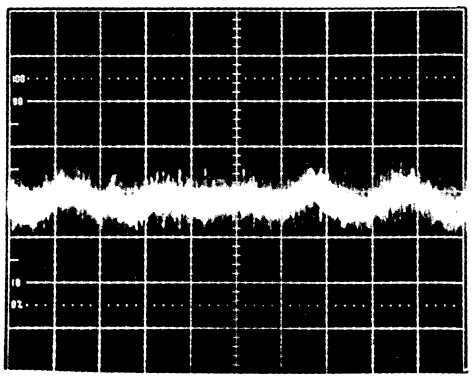
This adjustment should be performed after focus offset and tracking offset adjustments are completed.

**Procedure:**

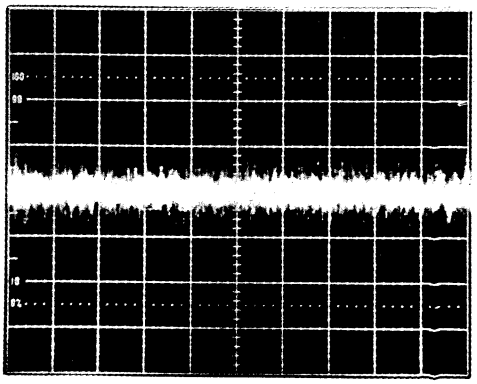



1. Connect the oscilloscope to RF board test point TRGA.
2. Put the set into play mode by loading the disc.
3. Turn RF board RV4 from clockwise stop, then check the oscilloscope waveform.
   Fix RV4 at the position where the waveform disappears.

*Volt/Div: 0.5 V*
*Time/Div: 2 mSec*

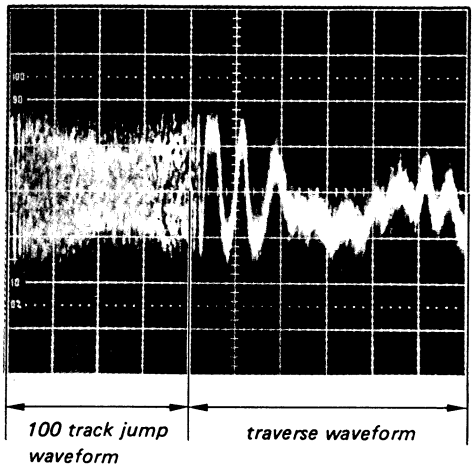


*waveform when the wave appears*

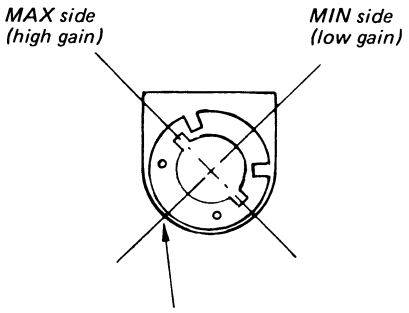


*waveform when the wave disappeared*

- **When gain is lowered . . .**
  When selecting by pressing |◀◀ or ▶▶| button, brake application is poor because of low tracking gain. Therefore, the traverse waveform appears after the 100 track jump waveform, then the selection will be located slowly.




- **When gain is highered . . .**
  Operation noise is heard due to a scratch or dust, then operation will be instability.




*RV3 standard position*

# ADJUSTMENT

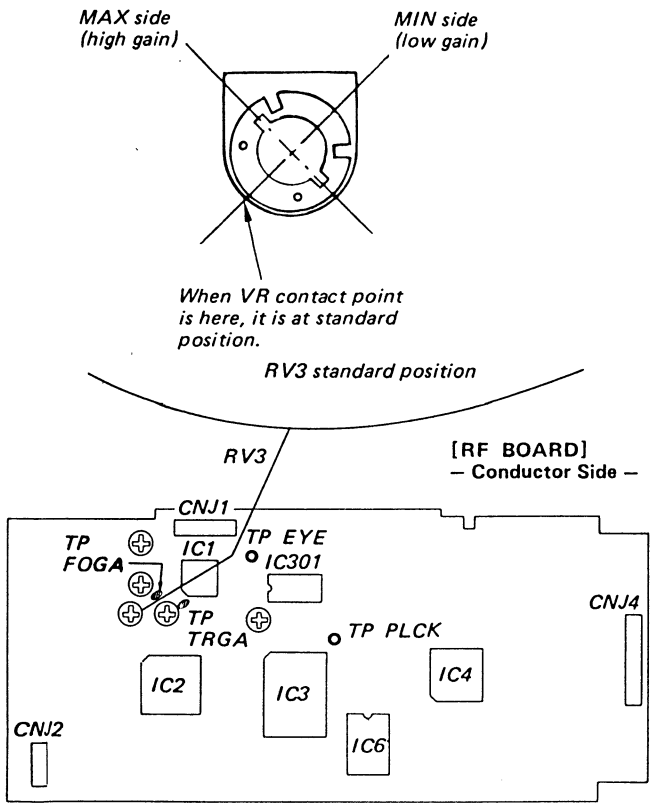
### 4. Focus Gain Adjustment (coarse adjustment)

This adjustment is to be performed when replacing the following parts.

- Optical Pick-up Block
- RV3

**Procedure:**

1. Set RV3 (RF board) to the standard position.
2. Check that there is not an abnormal amount of operation noise (white noise) from the 2-axis devise. If there is, turn RV3 slightly clockwise.

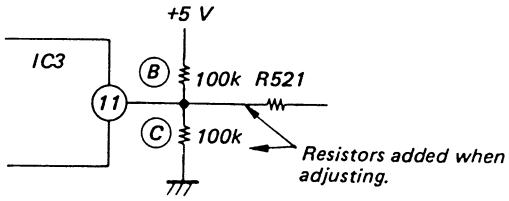


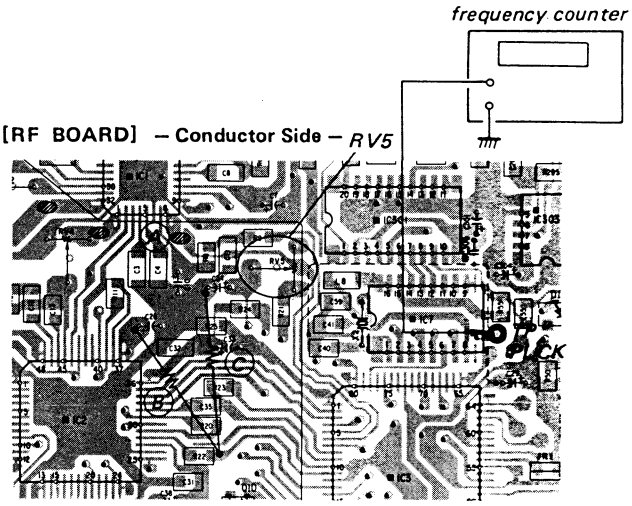

- **When gain is highered . . .**
  The set does not play because of no focus operation.
- **When gain is highered . . .**
  Operation noise is heard due to a scratch or a dust, then operation will be unstable.

### 5. PLL Freerun Frequency Adjustment

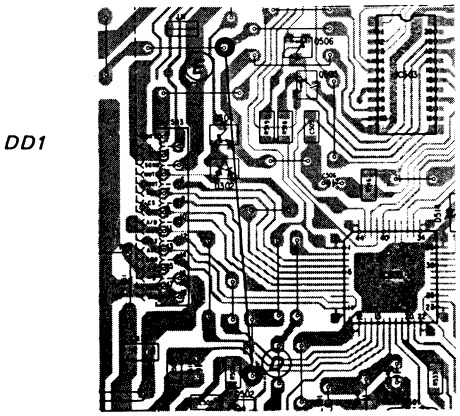
**Procedure:**

1. Unsolder the solder bridge at Ⓐ.
   (IC3 pin ⑤ is opened)
2. Connect 100 kΩ resistors to Ⓑ, Ⓒ.
   (This is to set the IC3 pin ⑪ voltage to 2.5 V)
3. Install a test jumper wire between Ⓓ and Ⓔ on the jack board to pull up the P/C terminal of the DC-DC converter ⊖.
4. Connect the frequency counter to RF board test point PLCK (IC3 pin ⑦⓪).
5. Turn the power switch on (Do not use the disc), then adjust RV5 so that the frequency is 4.3218 MHz ±10 kHz.
6. After adjusting, reset 1, 2 and 3 as original.




[JACK BOARD] – Conductor Side –



# KDC-C301

## VOLTAGE TABLES

### RF BOARD

**IC1**

| | |
|---|---|
| 2 | −4.1V |
| 4 | −0.3V |
| 5 | −0.7V |
| 7 | 2.4V |
| 8 | 2.4V |
| 9 | 4.8V |
| 11 | 5V |
| 14 | 0.8V |
| 17 | 3.2V |
| 18 | −4.9V |
| 24 | −0.6V |
| 30 | −5.1V |

**IC2**

| | |
|---|---|
| 5 | 0.3V |
| 7 | 0.7V |
| 10 | 5V |
| 17 | −4V |
| 18 | 4.8V |
| 19 | −5.1V |
| 21 | 5V |
| 22 | 4.9V |
| 23 | 4.8V |
| 24 | 5V |
| 25 | 5V |
| 27 | 1.9V |
| 28 | 2V |
| 29 | 2.2V |
| 30 | 2.3V |
| 31 | 3.6V |
| 32 | 2.2V |
| 33 | 5V |
| 34 | 2.4V |
| 35 | 4.9V |
| 36 | 2.5V |
| 37 | 5V |
| 39 | 0.4V |
| 43 | −5.1V |

**IC3**

| | |
|---|---|
| 2 | 4.9V |
| 3 | 2.4V |
| 4 | 2.8V |
| 5 | 2.4V |
| 6 | 2.5V |
| 7 | 5V |
| 8 | 2.4V |
| 9 | 2.1V |
| 11 | 1.7V |
| 13 | 5V |
| 14 | 5V |
| 15 | 4.8V |
| 16 | 4.9V |
| 17 | 0.1V |
| 18 | 4.8V |
| 20 | 5V |
| 23 | 1.5V |
| 24 | 0.1V |
| 25 | 2.5V |
| 28 | 5V |
| 29 ~ 32 | 1.8V |
| 33 | 5V |
| 34 ~ 37 | 1.8V |
| 39 ~ 48 | 2.5V |
| 49 | 4.4V |
| 50 | 2.7V |
| 51 | 2.3V |
| 53 | 2.2V |
| 56,57 | 5V |

**IC4**

| | |
|---|---|
| 12 ~ 16 | 5V |
| 18 | 5V |
| 20 ~ 25 | 4.9V |
| 26 | 5V |
| 27 ~ 29 | 4.9V |
| 31 | 4.9V |
| 32 | 5V |
| 33 ~ 35 | 4.8V |
| 36 | 2.3V |
| 38 | 4.9V |
| 44 | 2.5V |
| 45 | 1.5V |

**IC5**

| | |
|---|---|
| 1 | 4.6V |
| 3 | 0.3V |
| 4,5 | −5.1V |
| 6 | −0.3V |
| 11 | −0.1V |
| 12,13 | −5.1V |
| 14 | 0.1V |

**IC6**

| | |
|---|---|
| 1 ~ 8 | 2.5V |
| 9 ~ 17 | 1.8V |
| 18 | 2.6V |
| 19 | 2.5V |
| 20 | 2.6V |
| 21 | 4.4V |
| 22,23 | 2.5V |
| 24 | 5V |

**IC301**

| | |
|---|---|
| 1 | 1.9V |
| 4 | 4V |
| 6,7 | 2.5V |
| 9 | 2.3V |
| 14 | 4V |
| 20 | 1.9V |

**IC302**

| | |
|---|---|
| 1 | 0.5V |
| 2 | 0.5V |
| 4 | −5V |
| 6 | 0.5V |
| 7 | 0.5V |
| 8 | 5V |

**IC303**

| | |
|---|---|
| 1 | −0.6V |
| 4 | −5V |
| 7 | −0.6V |
| 8 | 4.9V |

**IC501**

| | |
|---|---|
| 1 | 14.3V |
| 3,4 | 0.4V |
| 6 | 0.1V |
| 7 | 14.3V |
| 8 | 0.4V |
| 9,10 | 0.4V |
| 12 | 0.1V |

**IC502**

| | |
|---|---|
| 1 | 4.9V |
| 2 | 5V |

**IC503**

| | |
|---|---|
| 9 | 4.8V |
| 15 | 5.3V |
| 16 | 4.8V |
| 18,19 | 5V |
| 20 | 5.3V |

**IC505**

| | |
|---|---|
| 1 | 4.9V |
| 2 | 5V |
| 3 | 4.9V |
| 5 ~ 11 | 4.9V |
| 13 ~ 15 | 4.9V |
| 17 | 5V |
| 18 | 2.4V |
| 21 | 5V |
| 24,25 | 4.9V |
| 26,27 | 0.1V |
| 28 | 0.2V |
| 29 | 0.1V |
| 30 | 0.5V |
| 31 | 0.1V |
| 32 | 0.3V |
| 40,41 | 5V |

**Q1**

| | |
|---|---|
| E | 3.9V |
| C | 1.8V |
| B | 3.2V |

**Q2**

| | |
|---|---|
| E | — |
| C | −5V |
| B | 0.3V |

**Q3**

| | |
|---|---|
| E | — |
| C | 4.6V |
| B | 0.3V |

**Q4**

| | |
|---|---|
| E | — |
| C | −5V |
| B | — |

**Q5**

| | |
|---|---|
| E | — |
| C | 4.6V |
| B | — |

**Q9**

| | |
|---|---|
| E | — |
| C | — |
| B | 2.6V |

**Q10**

| | |
|---|---|
| E | 2.6V |
| C | — |
| B | — |

**Q101,201**

| | |
|---|---|
| E | — |
| C | — |
| B | −4.4V |

**Q301**

| | |
|---|---|
| E | 5V |
| C | −4.4V |
| B | 4.7V |

**Q302**

| | |
|---|---|
| E | — |
| C | 4.7V |
| B | — |

**Q303**

| | |
|---|---|
| E | 14.4V |
| C | 14.4V |
| B | — |

**Q304**

| | |
|---|---|
| E | — |
| C | — |
| B | 4.4V |

**Q305**

| | |
|---|---|
| E | — |
| C | 0.01V |
| B | 14.4V |

**Q502**

| | |
|---|---|
| E | 5V |
| C | — |
| B | — |

**Q505,506**

| | |
|---|---|
| E | 5V |
| C | 5V |
| B | 4.8V |

**Q511**

| | |
|---|---|
| E | 0.3V |
| C | 0V |
| B | 0.3V |

**Q512**

| | |
|---|---|
| E | — |
| C | 0V |
| B | 3.2V |

**Q513**

| | |
|---|---|
| E | — |
| C | 0.3V |
| B | — |

**Q515**

| | |
|---|---|
| E | — |
| C | 0.1V |
| B | — |

**Q516**

| | |
|---|---|
| E | — |
| C | — |
| B | 0.7V |

**Q517**

| | |
|---|---|
| E | 0.1V |
| C | 0.1V |
| B | — |

**Q519**

| | |
|---|---|
| E | — |
| C | — |
| B | 1.6V |

**Q520**

| | |
|---|---|
| E | 0.1V |
| C | 0.1V |
| B | — |

**Q523**

| | |
|---|---|
| E | — |
| C | — |
| B | 0.6V |

**Q524**

| | |
|---|---|
| E | 5V |
| C | 5V |
| B | — |

**Q704**

| | |
|---|---|
| E | — |
| C | 0.01V |
| B | 4.9V |

**Q705**

| | |
|---|---|
| E | 14.4V |
| C | 14.3V |
| B | 13.6V |

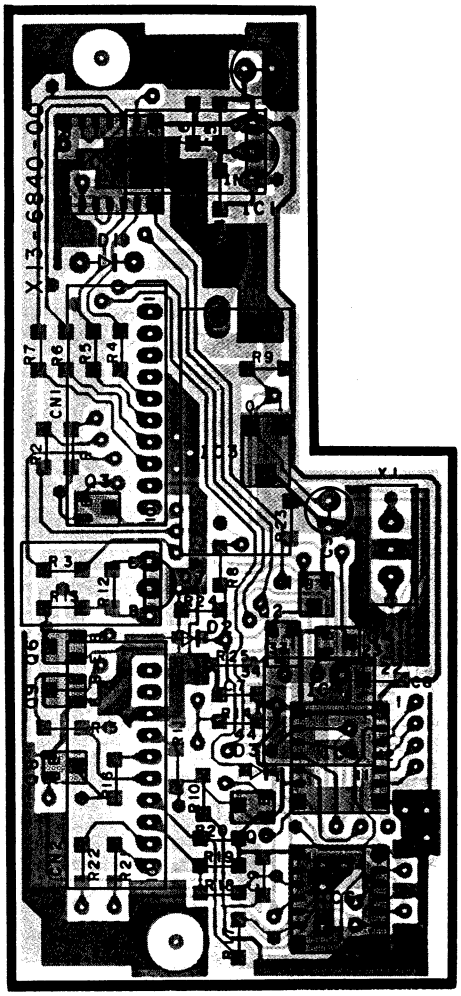
**Q707**

| | |
|---|---|
| E | 5.4V |
| C | 14.3V |
| B | 6V |

# PC BOARD (Component side view) (1/3)

## SUB CIRCUIT UNIT (X13-6840-00)

[I/O BOARD]

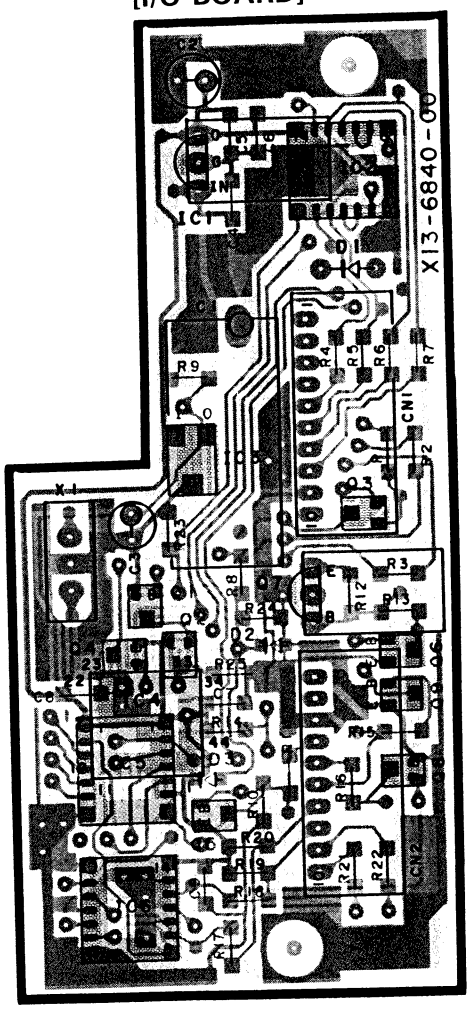



Refer to the schematic diagram for the values of resistors and capacitors.

# PC BOARD (Foil side view) (1/3)

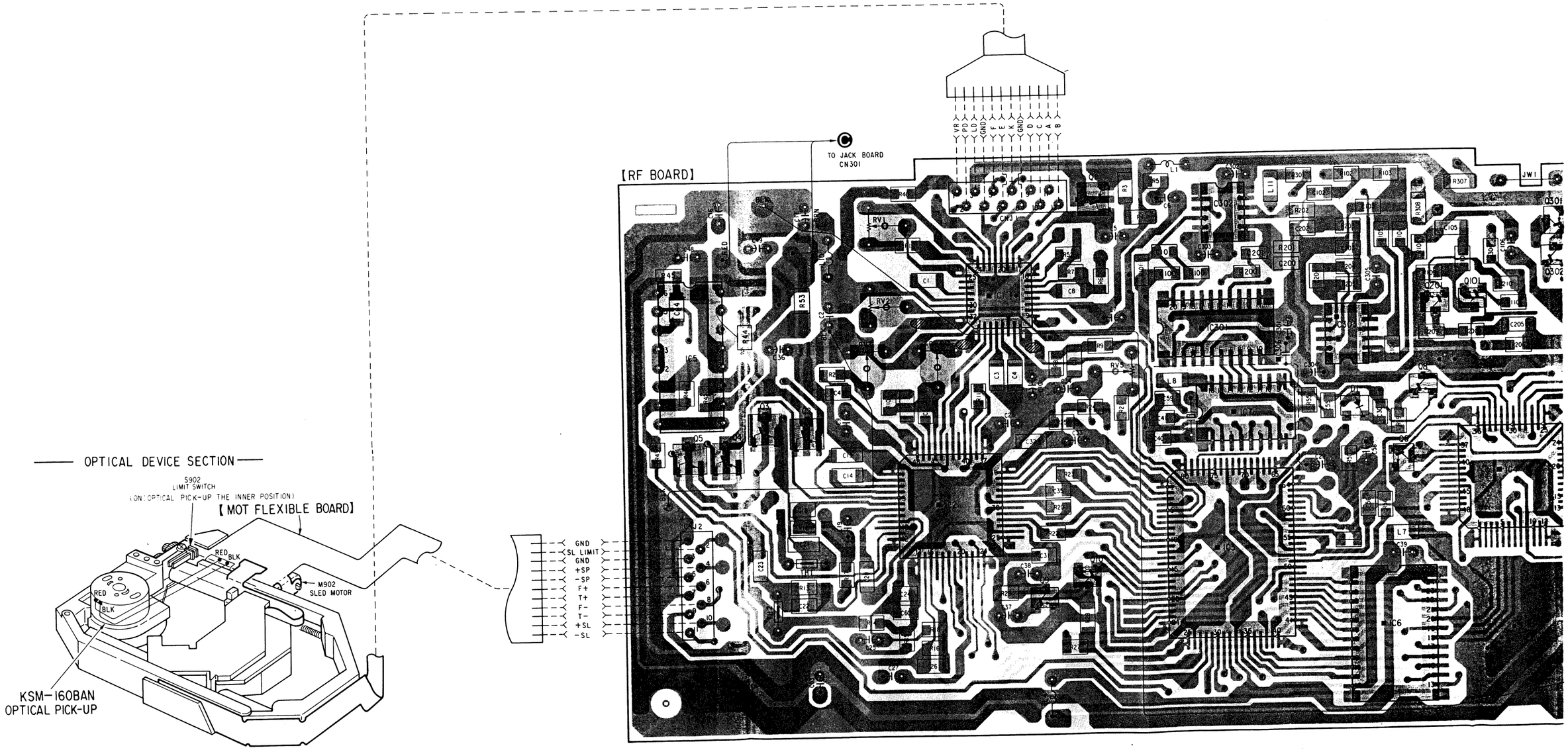
## SUB CIRCUIT UNIT (X13-6840-00)

[I/O BOARD]




Refer to the schematic diagram for the values of resistors and capacitors.

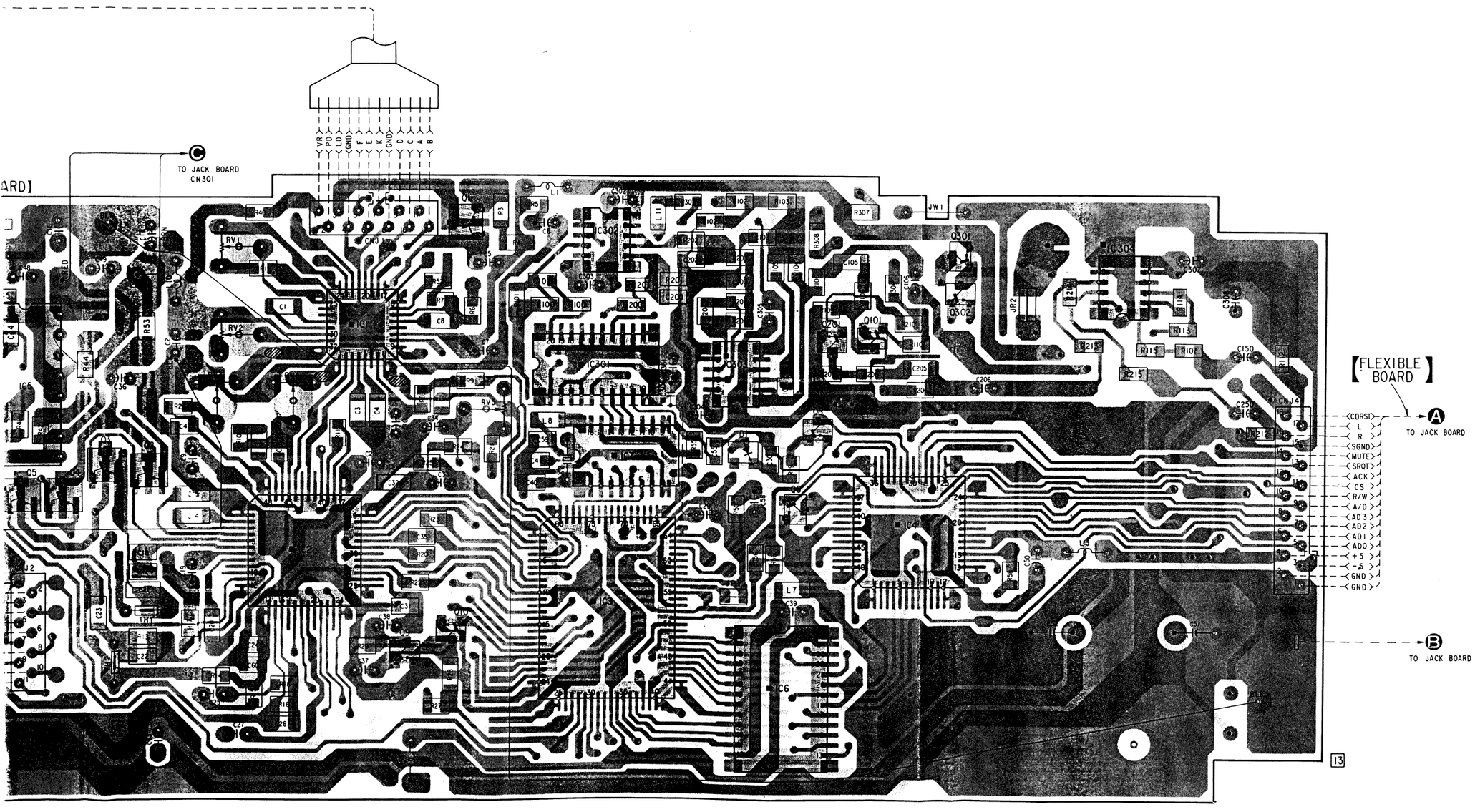
# PC BOARD (Component side view) (2/3)



O P Q R S T U V W X

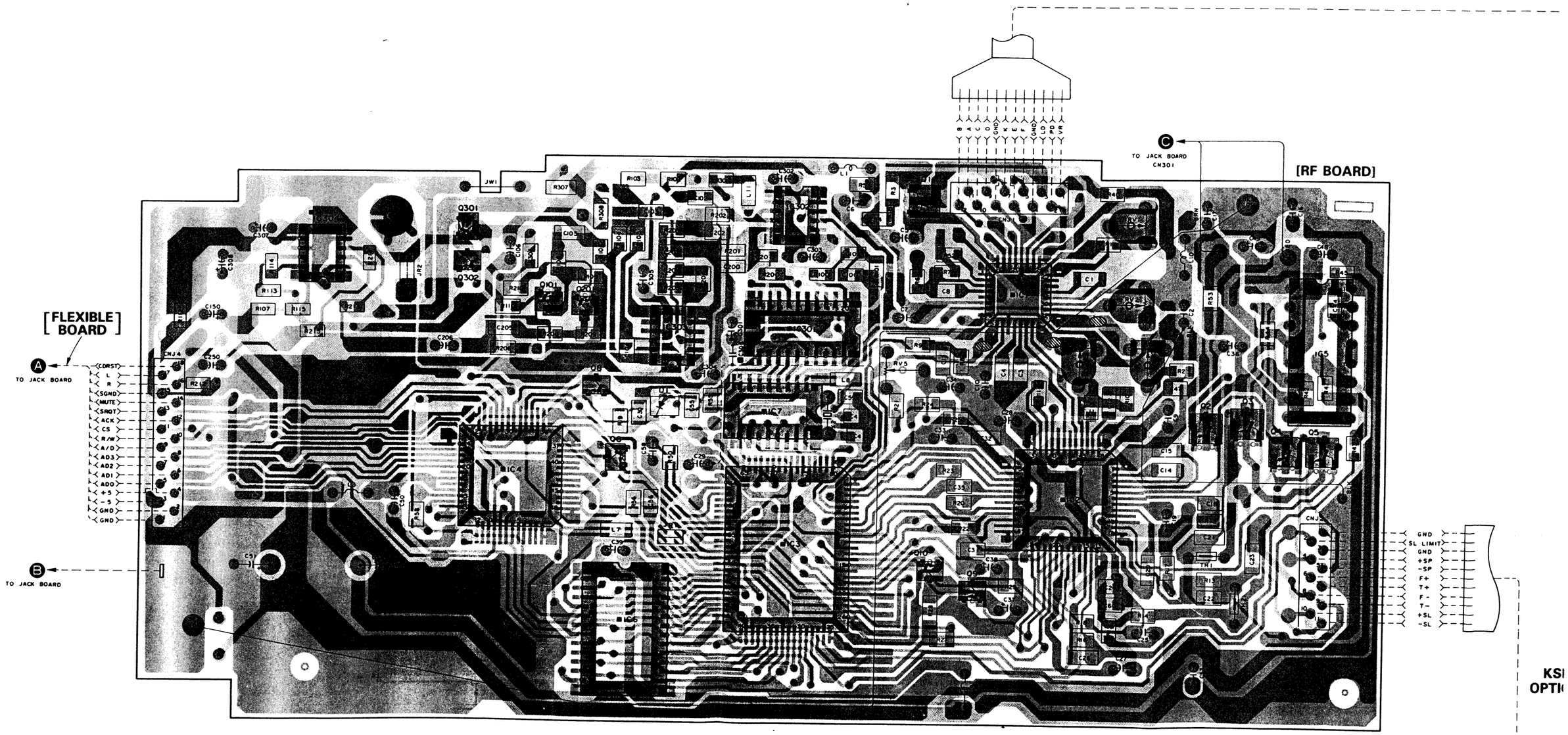
**RF unit**

| Ref. No. | | Address |
|---|---|---|
| IC | Q | |
| | 1 | 3Q |
| | 2 | 4Q |
| | 3 | 4Q |
| | 4 | 4Q |
| | 5 | 4Q |
| | 6 | 5S |
| | 8 | 4S |
| | 9 | 5Q |
| | 10 | 5Q |
| | 101 | 4S |
| | 201 | 4S |
| | 301 | 3T |
| | 302 | 3T |
| 1 | | 3Q |
| 2 | | 5P |
| 3 | | 5R |
| 4 | | 5T |
| 5 | | 4Q |
| 6 | | 6S |
| 7 | | 4R |
| 301 | | 4R |
| 302 | | 3R |
| 303 | | 4S |
| 304 | | 4S |



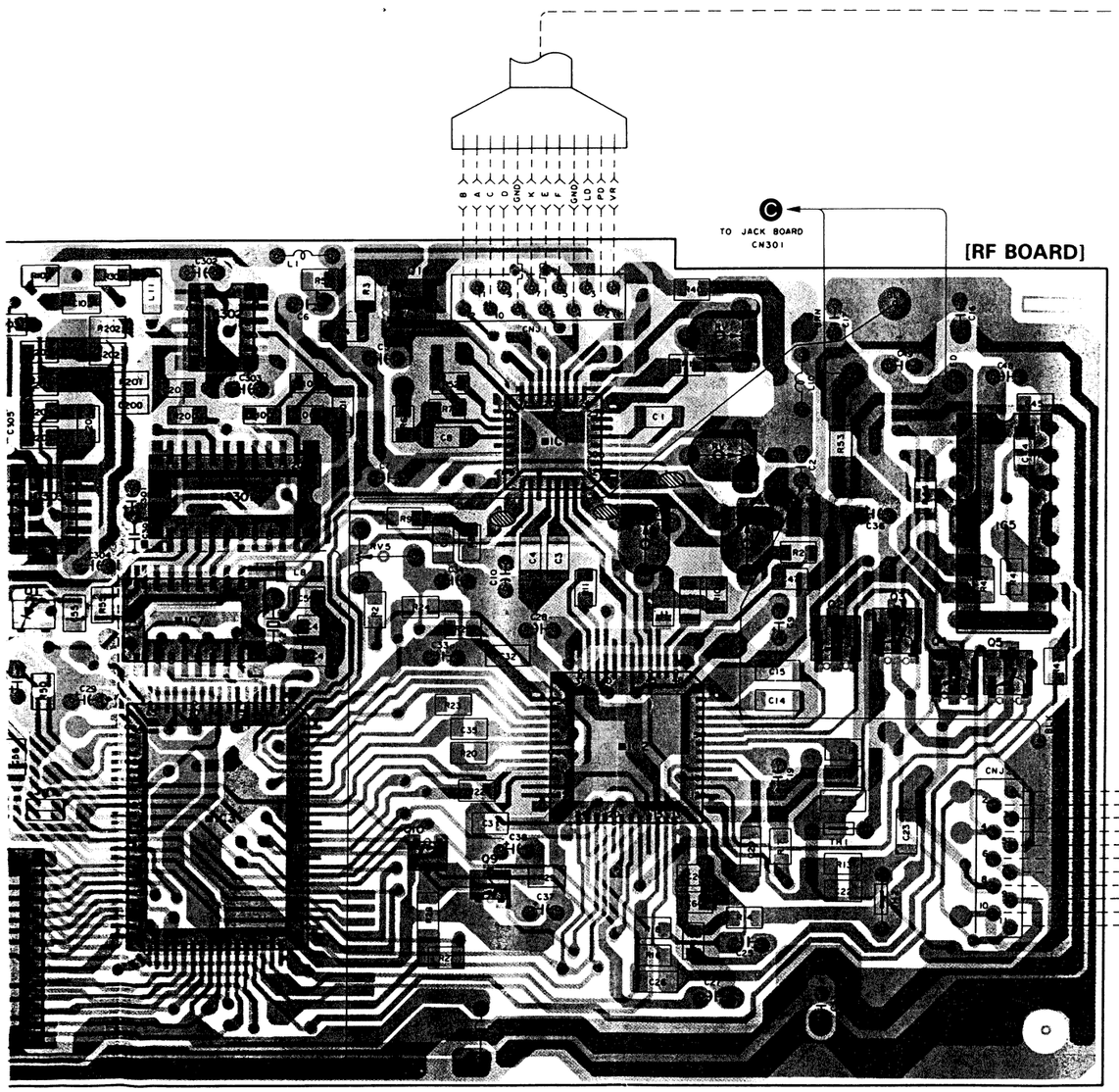

Refer to the schematic diagram for the values of resistors and capacitors.

# PC BOARD (Foil side view) (2/3)

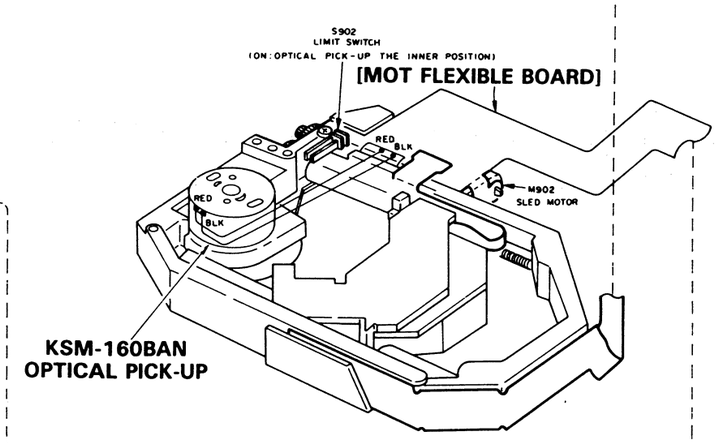


**RF unit**

| Ref. No. IC | Q | Address |
|---|---|---|
| | 0 | |
| | 1 | |
| | 2 | |
| | 3 | |
| | 4 | |
| | 5 | |
| | 6 | |
| | 8 | |
| | 9 | |
| | 10 | |
| | 101 | |
| | 201 | |
| | 301 | |
| | 302 | |
| 1 | | 4AE |
| 2 | | 5AE |
| 3 | | 5AD |
| 4 | | 5AB |
| 5 | | 4AG |
| 6 | | 6AC |
| 7 | | 4AC |
| 301 | | 4AD |
| 302 | | 3AD |
| 303 | | 4AC |
| 304 | | 3AA |

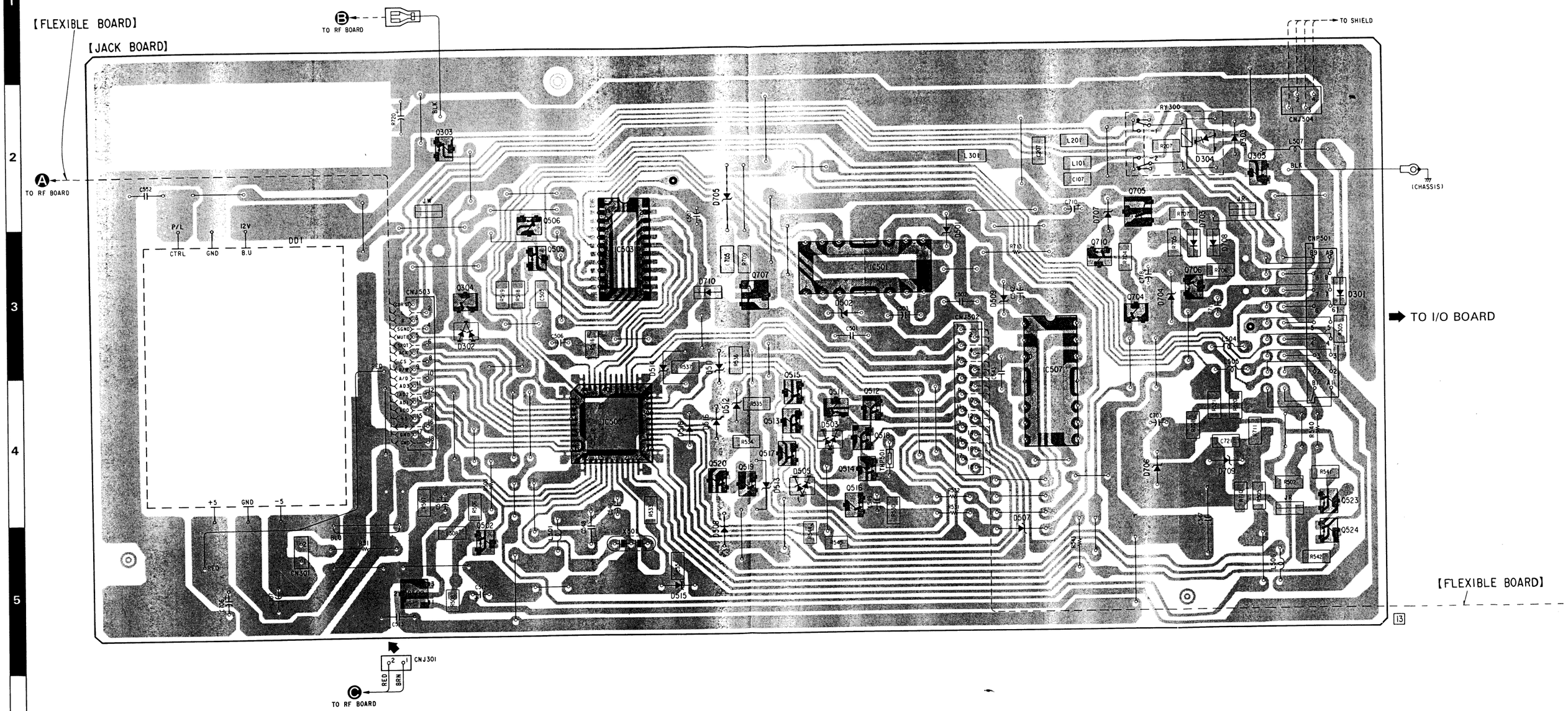


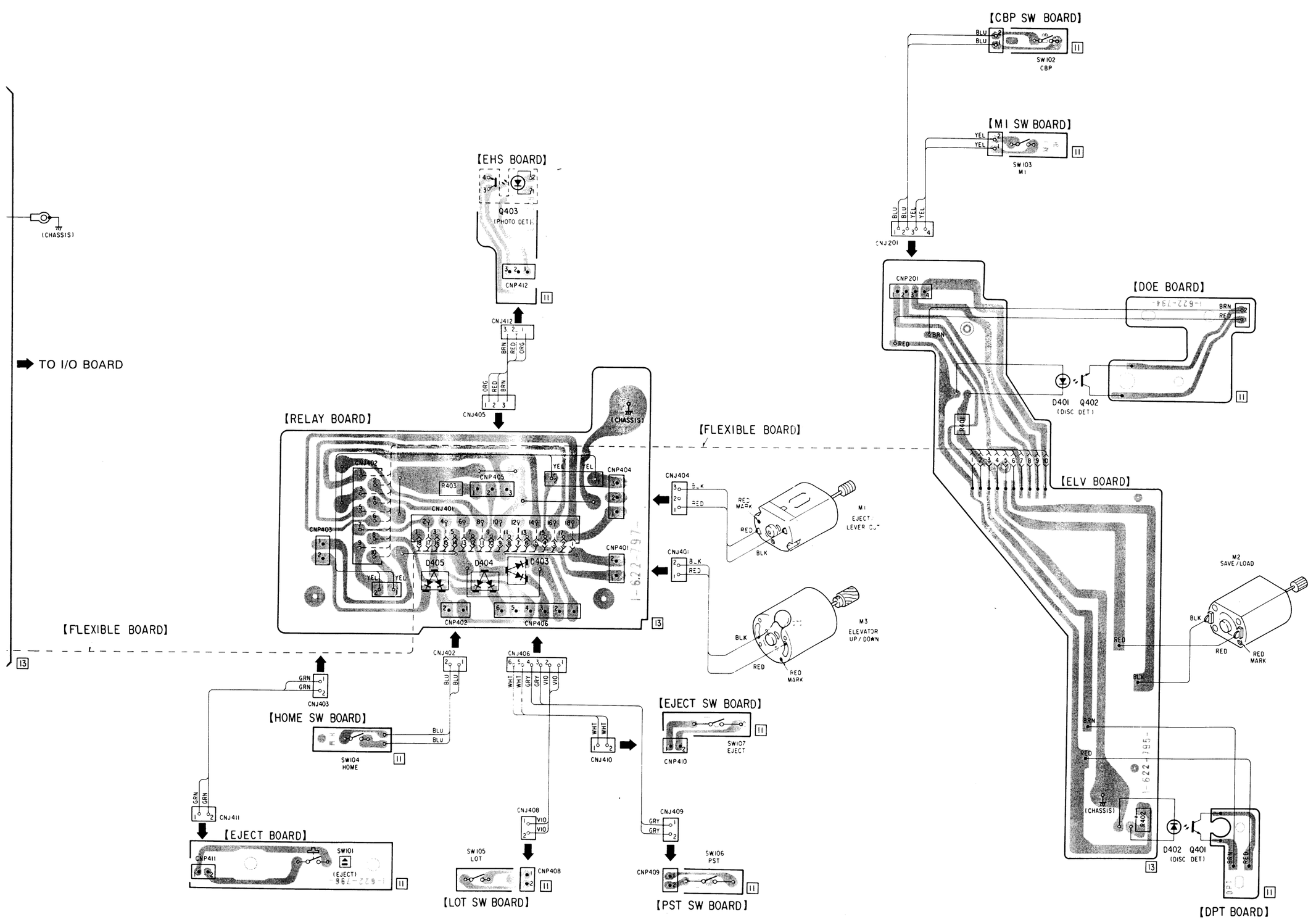

—OPTICAL DEVICE SECTION—




Refer to the schematic diagram for the values of resistors and capacitors.

# PC BOARD (Component side view) (3/3)



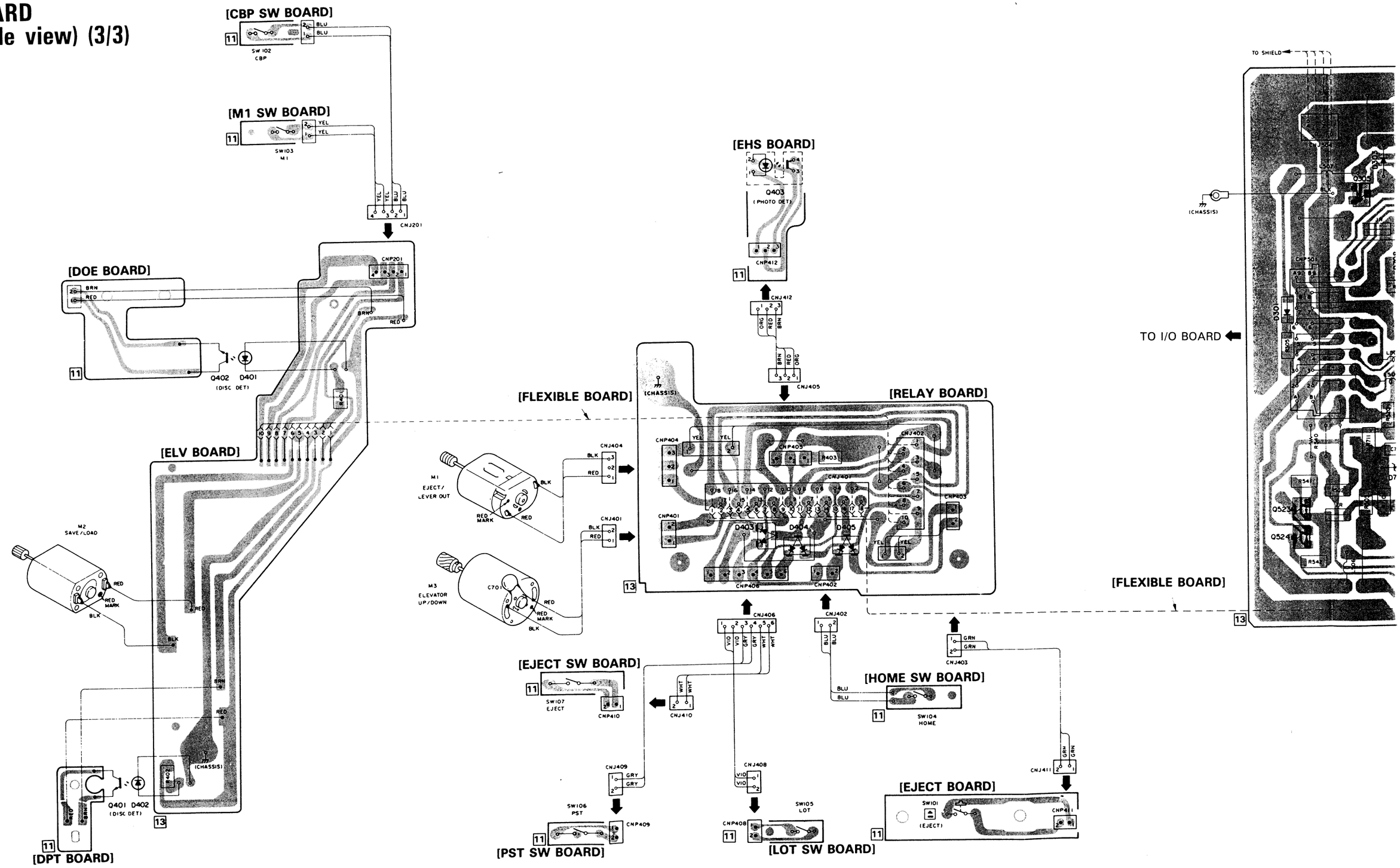


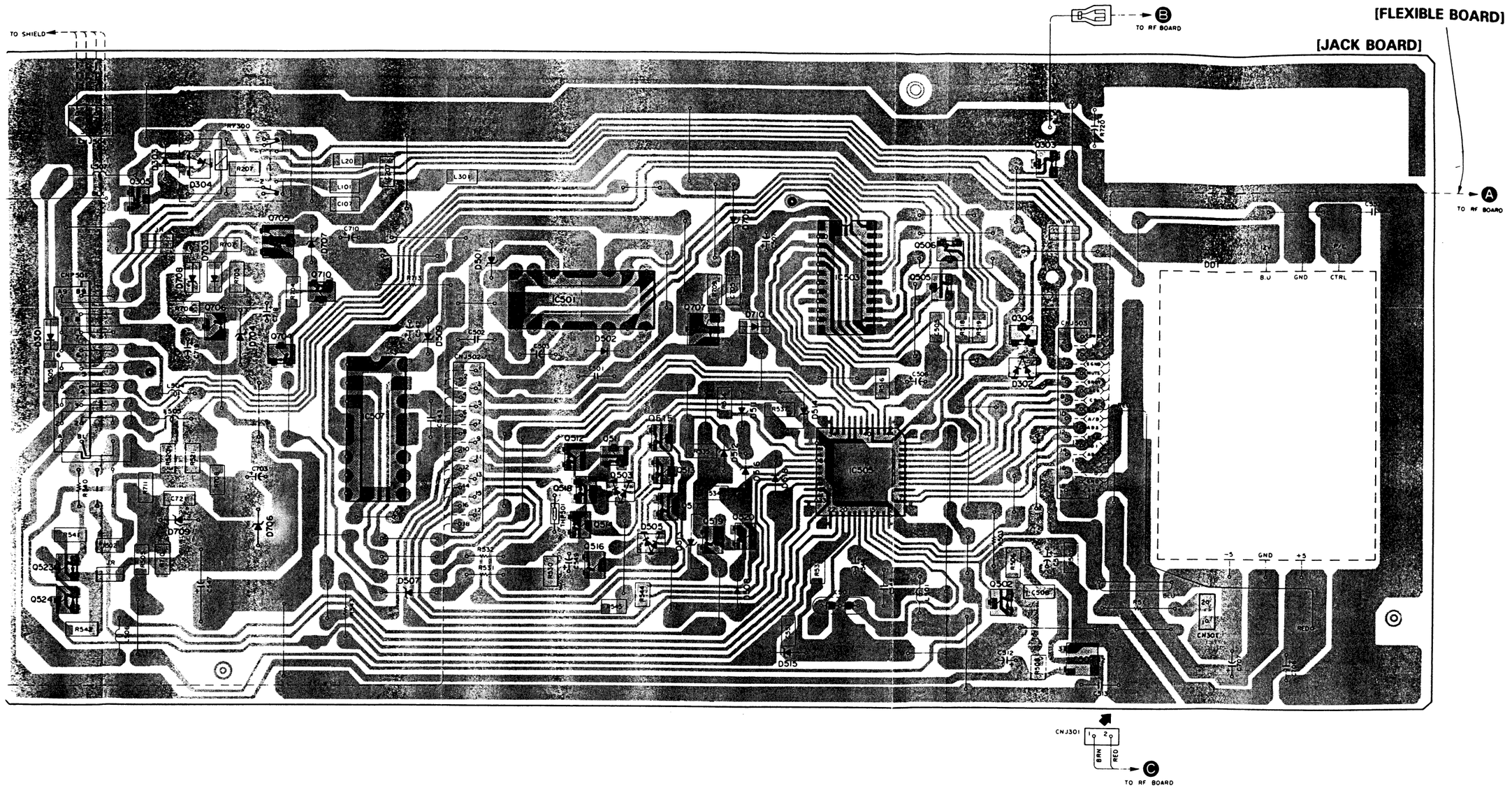

**Control unit**

| Ref. No. IC | Ref. No. Q | Address |
|---|---|---|
| | 303 | 2AO |
| | 304 | 3AO |
| | 305 | 2AT |
| | 502 | 5AO |
| | 505 | 3AP |
| | 506 | 3AP |
| | 511 | 4AR |
| | 512 | 4AR |
| | 513 | 4AQ |
| | 514 | 4AR |
| | 515 | 4AQ |
| | 516 | 4AR |
| | 517 | 4AQ |
| | 518 | 4AR |
| | 519 | 4AQ |
| | 520 | 4AQ |
| | 523 | 4AU |
| | 524 | 4AU |
| | 704 | 3AT |
| | 705 | 2AT |
| | 706 | 3AT |
| | 707 | 3AQ |
| | 710 | 3AS |
| 501 | | 3AR |
| 502 | | 5AO |
| 503 | | 3AP |
| 505 | | 4AP |
| 507 | | 4AS |

Refer to the schematic diagram for the values of resistors and capacitors.

# PC BOARD
## (Foil side view) (3/3)






Control unit

| Ref. No. IC | Ref. No. Q | Address |
|---|---|---|
| | 303 | |
| | 304 | |
| | 305 | |
| | 502 | |
| | 505 | |
| | 506 | |
| | 511 | |
| | 512 | |
| | 513 | |
| | 514 | |
| | 515 | |
| | 516 | |
| | 517 | |
| | 518 | |
| | 519 | |
| | 520 | |
| | 523 | |
| | 524 | |
| | 704 | |
| | 705 | |
| | 706 | |
| | 707 | |
| | 710 | |
| 501 | | 3BQ |
| 502 | | 5BT |
| 503 | | 2BR |
| 505 | | 4BR |
| 507 | | 3BO |

Refer to the schematic diagram for the values of resistors and capacitors.

# [RF BOARD]

KSM-160BAN
OPTICAL PICK-UP
BLOCK

E
C
A
D
B
F

B
A
C
D
K
E
F
GND
LD
GND
PD
VR

CN01

FOCUS F+ F-
TRACKING T+ T-

TRACKING OFFSET
FOCUS OFFSET
FOCUS GAIN
TRACKING GAIN

Q1 2SB1122 APC DRIVE
R5 1k
R3 11
R4 11
C6 47 6.3V
C5 100 6.3V

IC1 CXA1081Q
RF AMP
SIGNAL PROCESSOR
LASER ON CIRCUIT
MID POINT
VOLTAGE GENERATOR

E1 EO E F VO PD2 PD1 PD LD
RFO RFO RF1 NC VCC LD ON FOK
CC2 CC1 VEE FE BIAS FE TE DEF MIRR DON ASY EFM

RV1 22k
RV2 47k
RV3 22k
RV4 22k
RS2 15k
R7 13k
R6 2.2k
C8 0.018
R1 22k
C1 0.033
R40 91
C2 100p 6.3V
L10 2.2μH
C3 0.033
C4 0.01
C10 0.47 50V
R8 100k
C7 330 6.3V
C11 0.01
R9 11k

IC2 CXA1182Q
FOCUS/TRACKING
SLED/CLV SERVO

VC FGD FS3 FLB FEO FEO ⊖ SRCH TGV TG2 AVCC TAO TAO
FE AISC TZC TE DFCT DVEE MIRR WDCK SPINO SPINO DVCC
SLO SL- FSET SENS AVEE COUT DIRC XRST DATA XLT
MON MDP LOK VCOF ISET PDI BW DGND CLCK

C47 0.001
R2 10k
R10 470k
C13 0.0022
R11 100k
C12 0.018
C15 0.1
C14 0.1
C18 100p
C19 3.3 35V
C20 0.1
C21 0.1
R12 100k
R13 100k
C23 0.1
C22 33p
R14 330k
C24 0.047
C60 0.01
R15 68k
R16 120k
R17 680k
R18 8.2k
C25 2.2 50V
C26 0.068
C36 330 6.8V
C864 3.6RV5 2.2k
C34 47 6.3V
R21 3.3k
R20 100k
R22 10k
C31 0.0047
PLL FREERUN

Q2 2SB1122
Q3 2SD1622
Q4 2SB1122
Q5 2SD1622
TH1
TH2
R53 3.3
C9 100μ 6.3V

[JACK BOARD (2/2)]

R51 3.3 1/2W

C16 330 6.3V
C49 330 6.3V
C17 330 6.3V
C44 0.1
C48 330 6.3V
L3 2.2μ
C28 100 6.3V
C27 100 6.3V
C53 330 6.3V
C50 10 6.3V
R45 10

IC3 CXD1125

FSW WDCK DA16 DATA VDD LRCK PLCK RFCK
MON MDP MDS EFM ASY LOK VCOO VCOI TEST PDO CLCK XLT DATA XRST CNIN SENS MUTING CRCF SUBQ SCOR
PSSL SLOB MD3 MD2 MD1 XTAO XTAL VSS C4M RACS RAWE RA11 RA10 RA09 RA08 RA07 RA06 RA05 RA04
SQEX GFS DB08 DB07 DB06 DB05 VDD DB04 DB03 DB02 DB01 RA01 RA02

C32 0.033
R25 1M
C33 0.47 50V
R24 20k
R23 100k
C35 1000p
R28 10k
SQCK
R27 10k

IC6
RAM

IC7 CXD1316DN
L8 2.2μH
C59 100p

IC3
SIGNAL PROCESSOR

Q9 DTC114EK
Q10 DTC144EK
C37 1 50V
C38 1 50V
R29 100k

L7 2.2μH
CXK58

IC4
MECHANISM
CONTROL

SUBQ WFCK GND SCOR RST EX GFS FOK SENSE CS DFCT SRQT ACK CRCF SL.LIM R/W
APC EMP MUTE CLCK LATCH DATA VCC ADO AD1 AD2 AD3 A/D DIRC
IC4 MB88505-1023

R58 10k

M902 SLED
M901 SPINDLE
S902 LIMIT
(ON:OPTICAL PICK-UP THE INNER POSITION.)

CN02
-SL +SL F- T- T+ F+ -SP +SP LIMIT LIMIT

IC5 LA6530
MOTOR DRIVE

R41 1k
R42 22k
R43 1k
R44 22k

D1 1S2835
R19 270k
Q8 2SC2712
C30 0.022

IC505
MAIN CPU

RMIN ACC C SRQT ACK MUTE CS R/W A/D ADO AD1 AD2 AD3 RST CL1 VDD CL2 EMS CLCK IN DDON DATA IN
LATCH DATA 3 CLCK M3 M3 CE

IC505 μPD7508H-593 -22

DS11 DS16 DS12 R534 100k R535 100k
L501 2.2μH
C547 0.22
C548 0.1
X501 4.19MHz
C546 10 6.3V
C551 0.1
R533 10k
DS15 RD5.1ESB2
R503 10k
R543 1k

[ JACK BOARD (1/

IC302 ACTIVE FILTER

IC303 DE-EMPHASIS

Q101, 201 DE-EMPHASIS

IC304 NJM4560P BUFFER

IC7 DIGITAL FILTER

IC3 SIGNAL PROCESSOR

IC301 D/A CONVERTER

IC507 MOTOR DRIVE

IC502 RESET

IC503 PORT EXPANDER

Q301 DTA124EK SWITCHING

Q302 DT@124EK EMPHASIS CONTROL

[EJECT SW BOARD]

[PST SW BOARD]

[LOT SW BOARD]

[RELAY BOARD]

[EHS BOARD]

[EJECT BOARD]

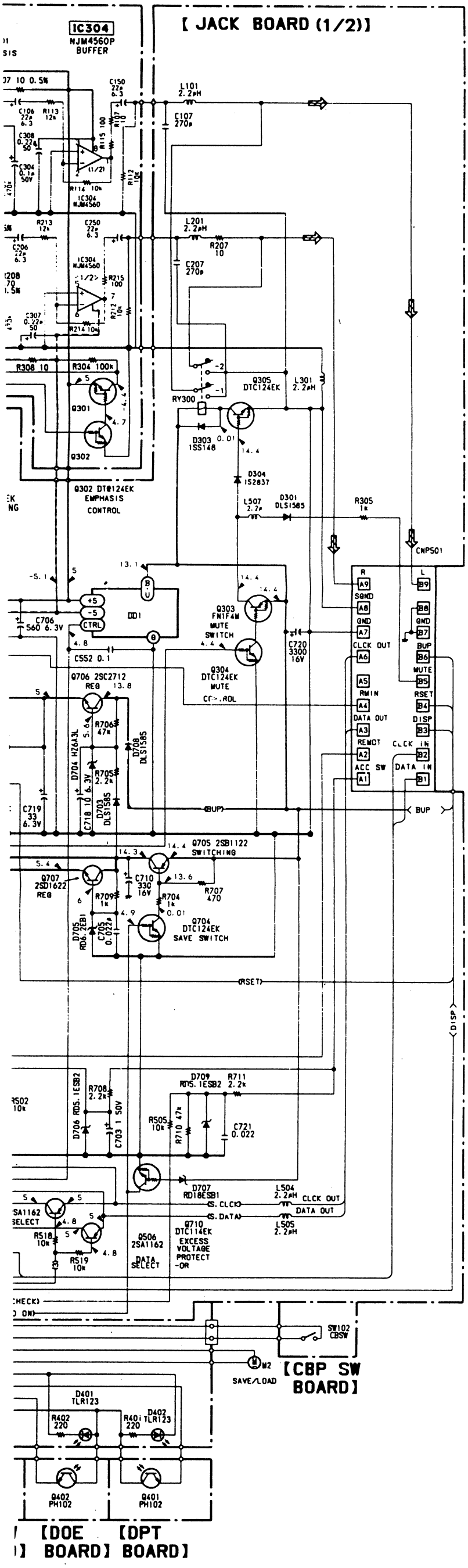
[HOME BOARD]

[M1 SW BOARD]

[DOE BOARD]

[DPT BOARD]

[CBP S BOARD




**CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). ⚠ Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.**

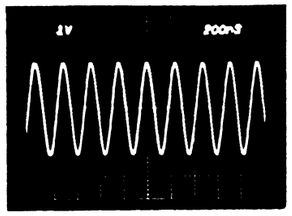
DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.

Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédance. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.

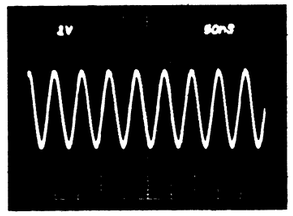
Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen Spannungsmesser gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u.U. geringfügig.

## WAVEFORMS

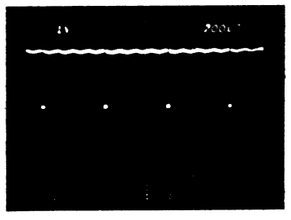
❶ IC505 pin ⑱



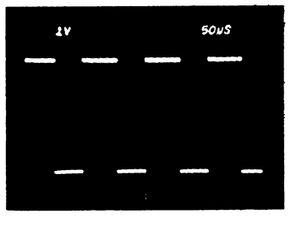

❷ IC7 pin ①



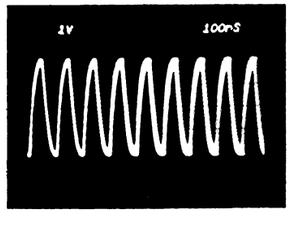

❸ IC2 pin ㉞, IC3 pin ③



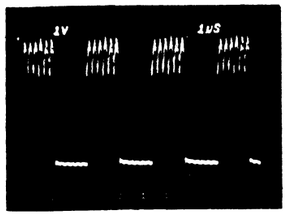

❹ IC3 pin ④



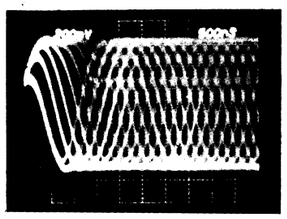

❺ IC3 pin ⑧



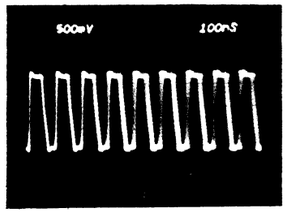

❻ IC7 pin ⑬




❼ IC1 pin ⑭

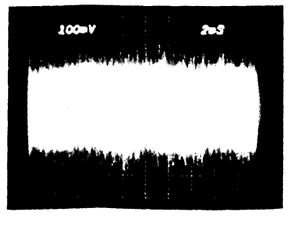



❽ IC2 pin ㉜

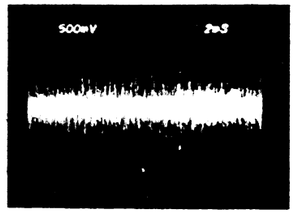



❾ IC1 pin ㉜

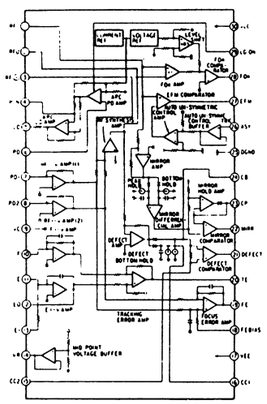
❿ IC1 pin ①



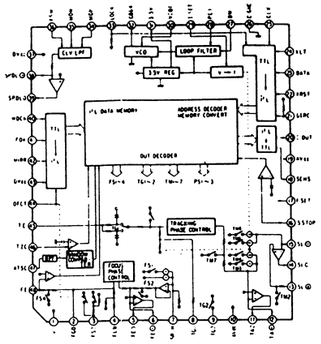

⓫ Q2, 3 emitter



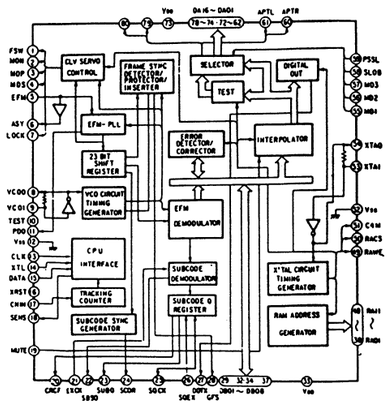

IC1 CXA-1081Q



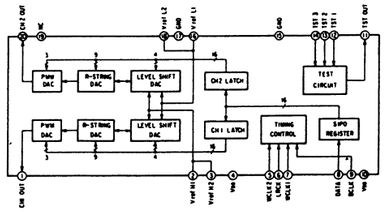
IC2 CXA1182Q-Z



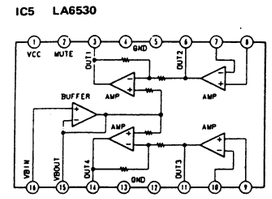
IC3 CXD1125Q



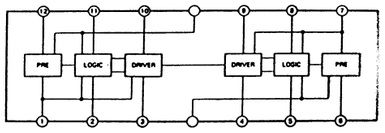
IC301 CXD1161M-2



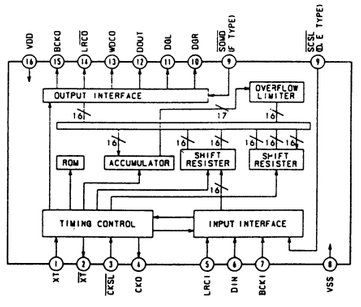
IC5 LA6530



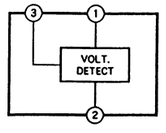
IC501, 507 LB1649



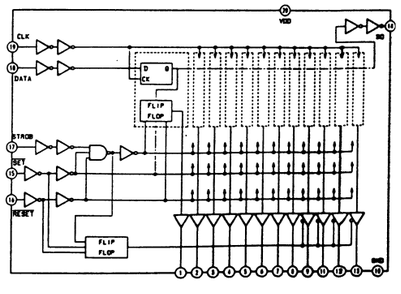
IC7 CXD1316DM



IC502 S-8054HN-CB



IC503 CX-7991

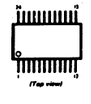


### SEMICONDUCTOR LEAD LAYOUTS

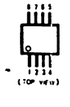
CXA1081Q

CXD1125Q

CXK5816M-15L

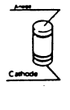



LA6462M
μPC4559G2

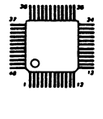



GP-1S03

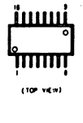
DLS1586



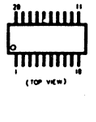

CXA1182Q-Z
MB88505H-1023M



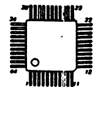
CXD1316DM




CXD1161M-2
CX-7991




μPD7508HG-593-22

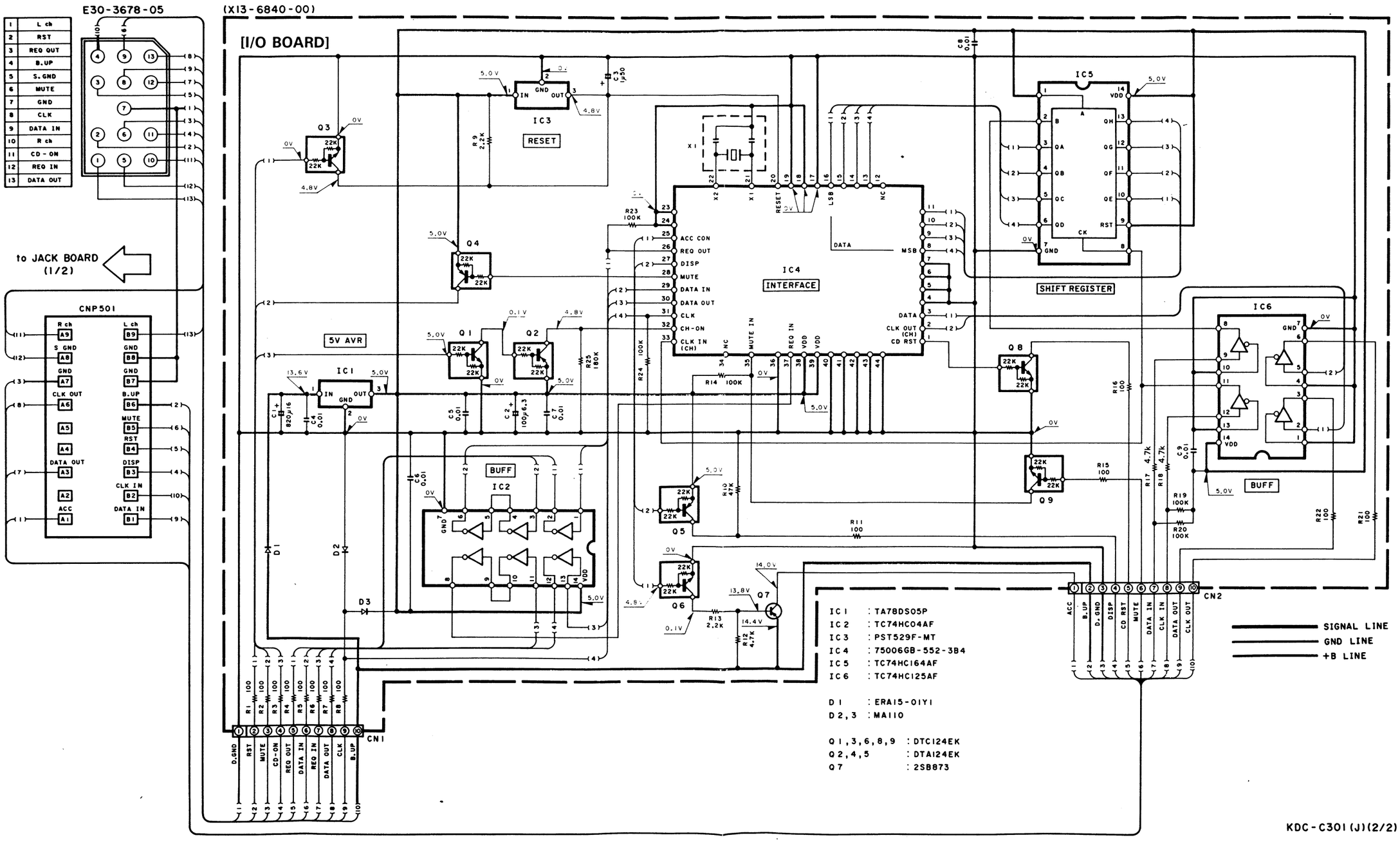


PH102-L

HZ6A2L

KDC-C301

KENWOOD



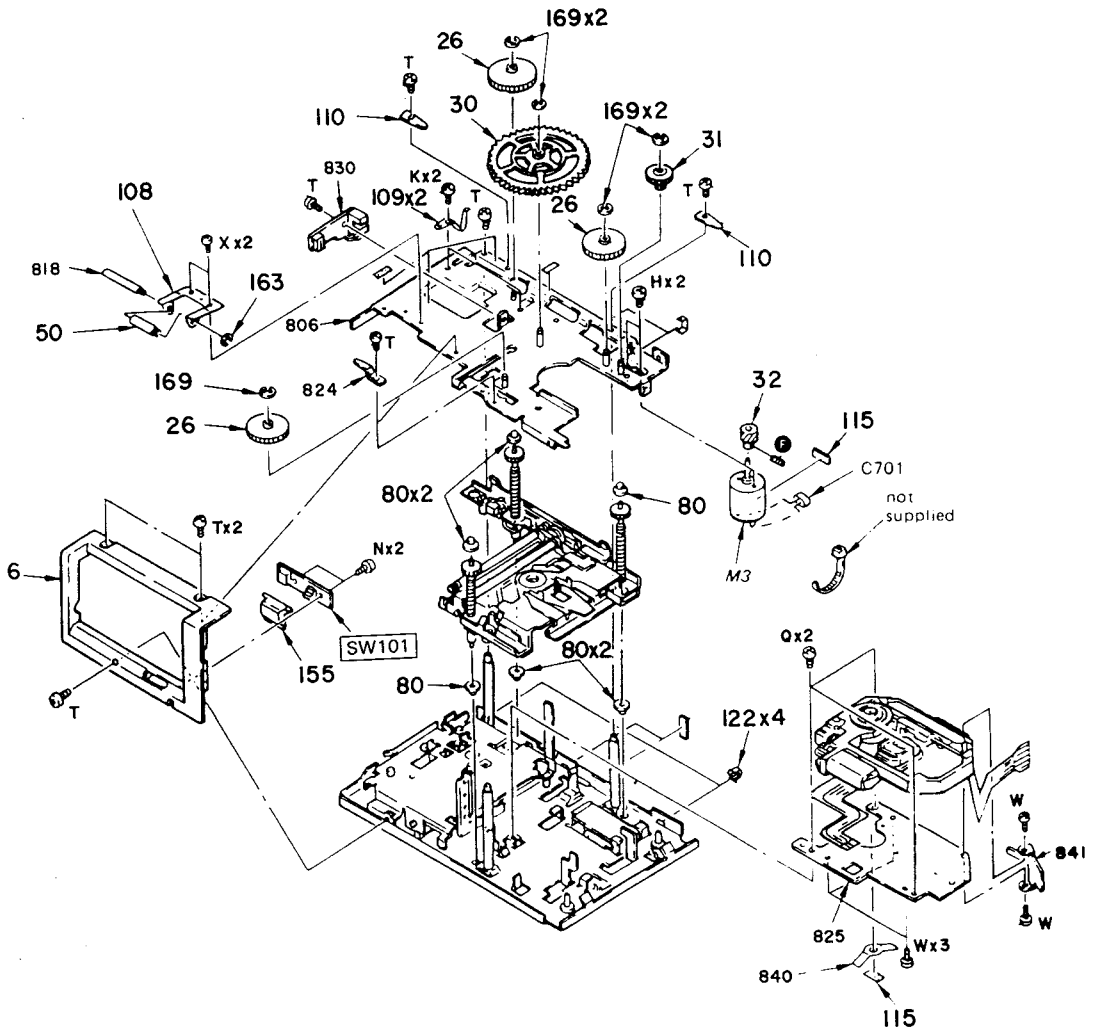

**CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). ⚠ Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is**

DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.

Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédance. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.

Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen Spannungsmesser gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u.U. geringfügig.

# EXPLODED VIEW (MECHANISM)




| | | | |
|---|---|---|---|
| ● | | | : N09 - 2639 - 08 |
| H | M3x3 | BLK | : N30 - 3003 - 45 |
| I | M2x3 | BLK | : N30 - 2003 - 45 |
| K | M2.6x3 (Bi) | BLK | : N35 - 2603 - 45 |
| N | Ø2.6x5 (T) | | : N52 - 2605 - 46 |
| Q | Ø2x4 (Tap) | BLK | : N84 - 2004 - 45 |
| T | Ø2.6x5 (Tap) | BLK | : N84 - 2605 - 45 |
| X | M2x2 | Ni | : N39 - 2020 - 41 |
| W | M2x5 (TP) | | : N90 - 2005 - 46 |

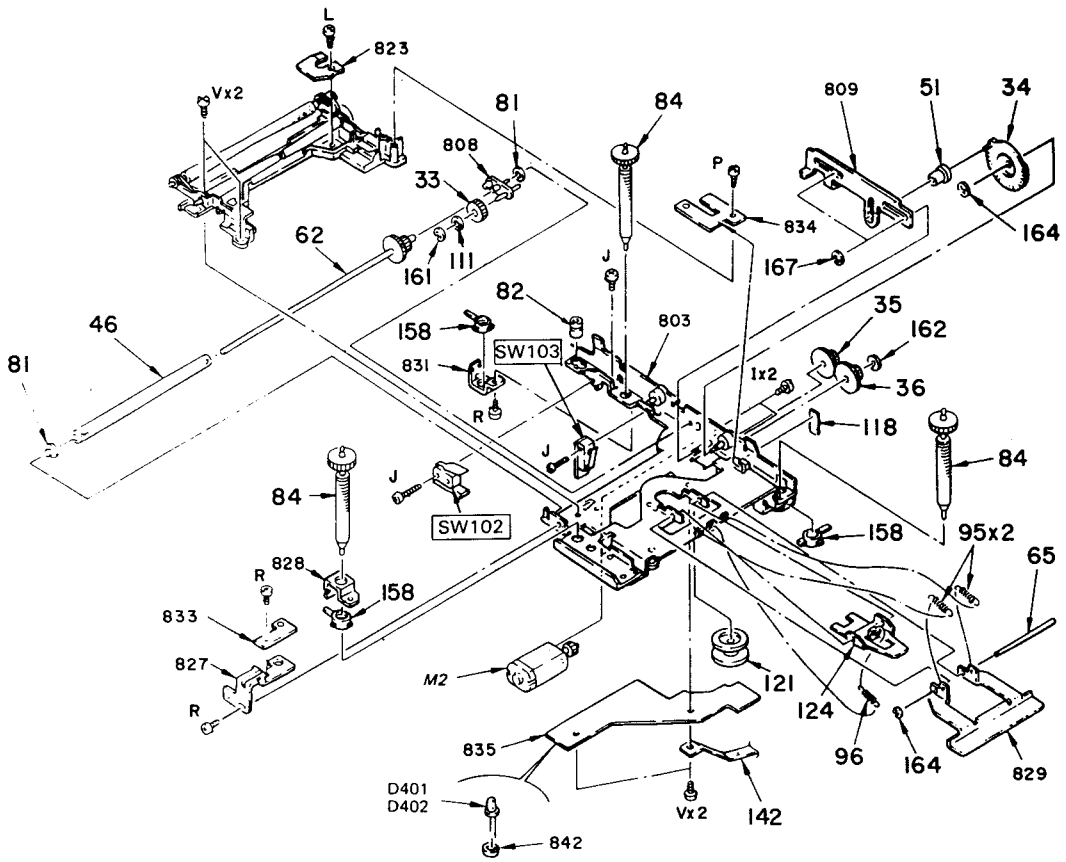
KDC-C301 (A/5)

# KDC-C301

## EXPLODED VIEW (MECHANISM)

C D

1 2 3



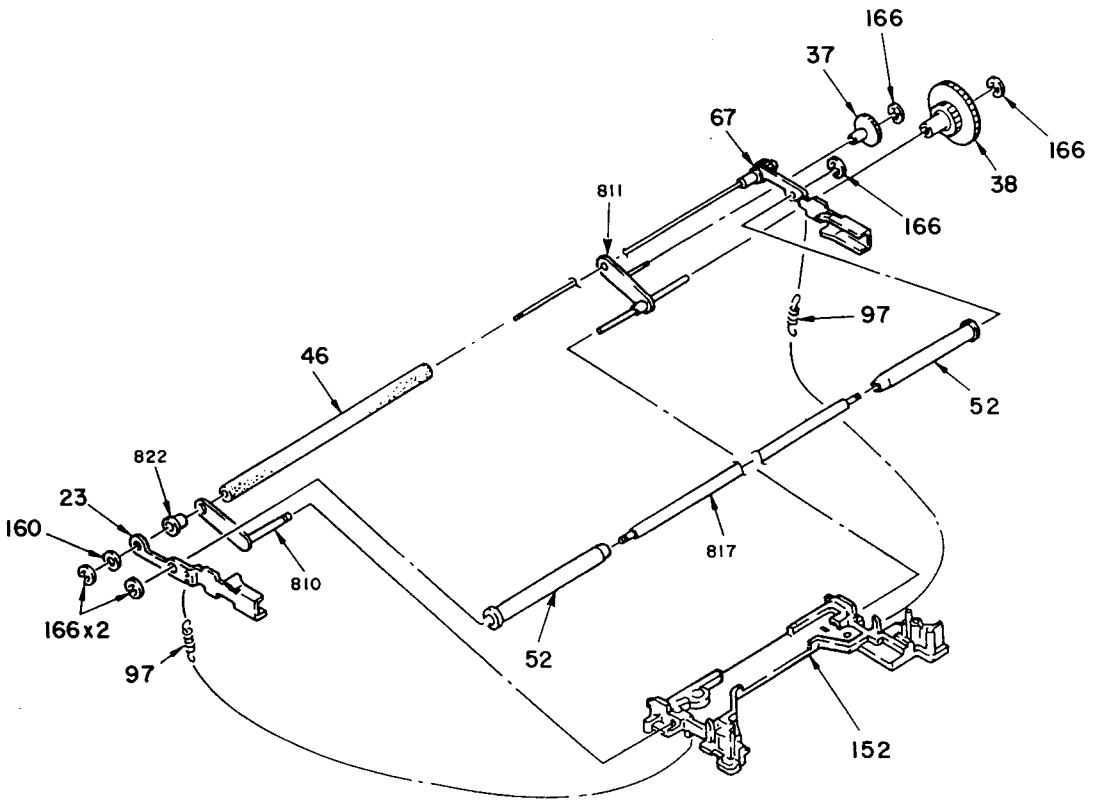

| | | | |
|---|---|---|---|
| I | M2x3 | BLK | : N30 - 2003 - 45 |
| J | M2x8 (Bi) | BLK | : N35 - 2008 - 45 |
| L | M2.6x6 (Bi) | BLK | : N35 - 2606 - 45 |
| P | Ø2.6x5 (T) | | : N52 - 2605 - 46 |
| R | Ø2x4 (Tap) | | : N84 - 2004 - 46 |
| V | Ø2.6x5 (Tap) | | : N84 - 2605 - 46 |

KDC-C301 (B/5)

# EXPLODED VIEW (MECHANISM)

E F

1 2 3

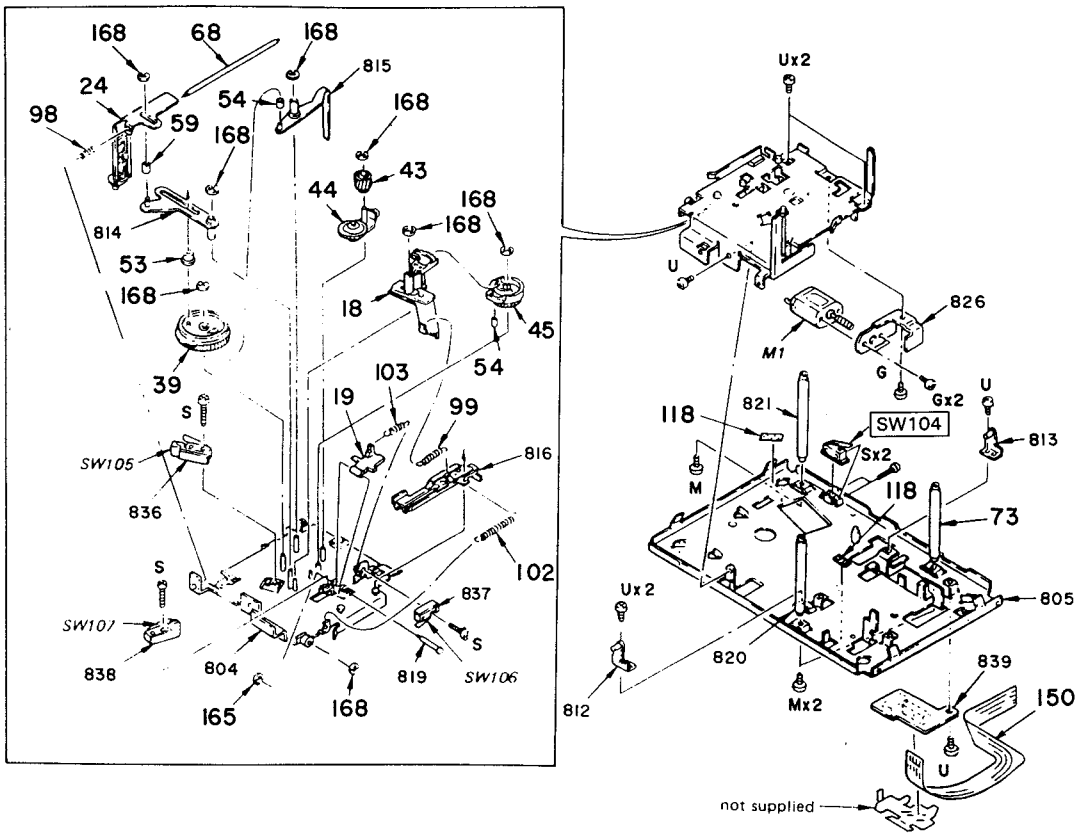



KDC-C301 (C/5)



Parts with the exploded numbers larger than 700 are not supplied.

# EXPLODED VIEW (MECHANISM)



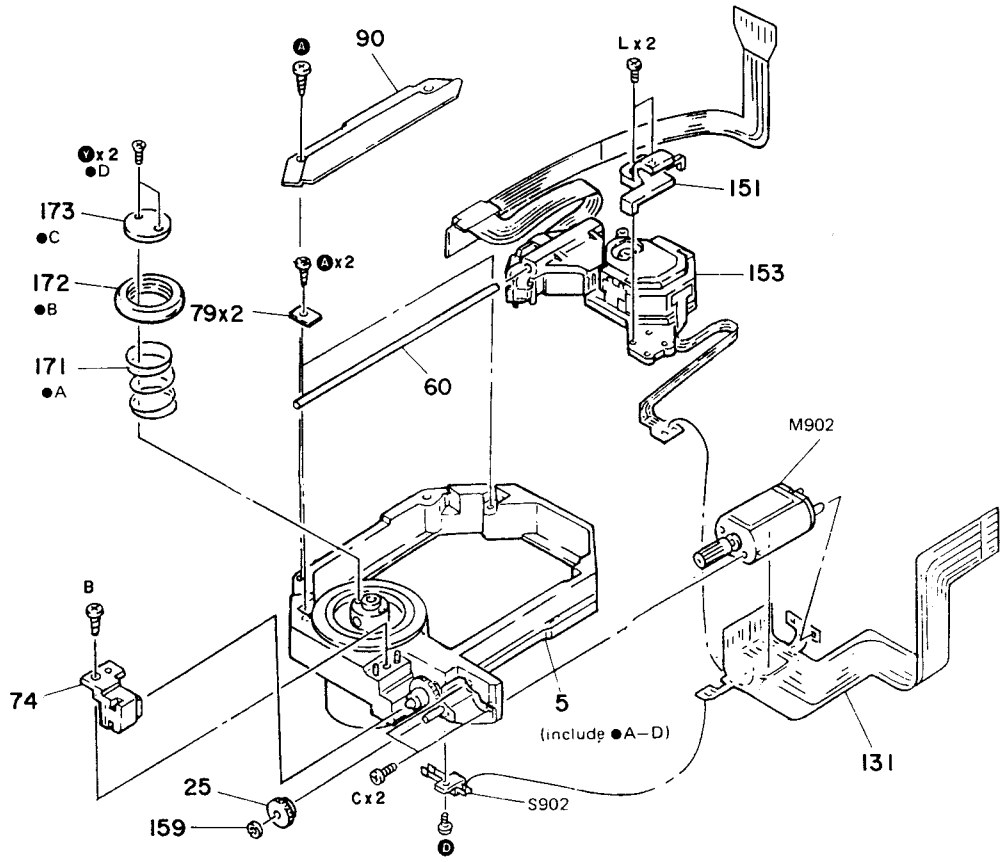

| | | | |
|---|---|---|---|
| G | M2.6x3 | | : N30-2603-46 |
| M | M3x5 (Bi) | BLK | : N35-3005-45 |
| S | Ø2x10 (Tap) | | : N84-2010-46 |
| U | Ø2.6x5 (Tap) | BLK | : N84-2605-45 |

KDC-C301 (D/5)



**Parts with the exploded numbers larger than 700 are not supplied.**

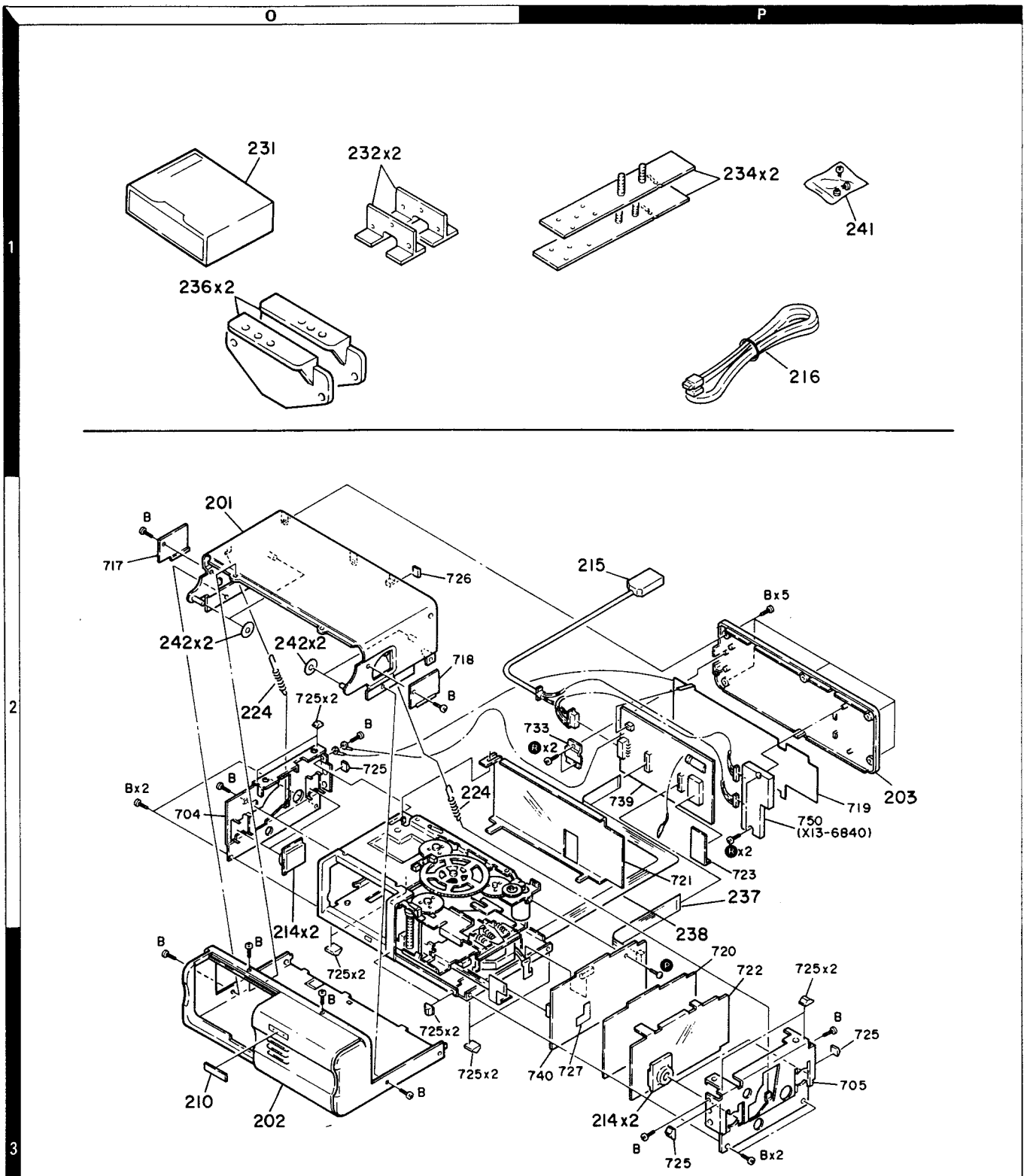
# EXPLODED VIEW (MECHANISM)




| | | | |
|---|---|---|---|
| Ⓐ | M2x4 | | : N09-1304-05 |
| B | M2x6 | Ni | : N52-2006-41 |
| C | M2x3 | Ni | : N39-2030-41 |
| Ⓓ | | | : N09-1943-08 |
| L | M2.6x6 (BI) | BLK | : N35-2606-45 |
| Ⓨ | | | : N09-4011-08 |

KDC-C301 (E/5)

# EXPLODED VIEW (UNIT)






Parts with the exploded numbers larger than 700 are not supplied.

# PARTS LIST

* New Parts
Parts without Parts No. are not supplied.
Les articles non mentionnes dans le Parts No. ne sont pas fournis.
Telle ohne Parts No. werden nicht geliefert.

| Ref. No. 参照番号 | Address 位置 | New Parts 新 | Parts No. 部品番号 | Description 部品名／規格 | Destination 仕向 | Remarks 備考 |
|---|---|---|---|---|---|---|
| **KDC-C301** | | | | | | |
| 201 | 10 | * | A01-2545-08 | METALLIC CABINET | | |
| 202 | 30 | * | A20-7676-08 | DRESSING PANEL | | |
| 203 | 2P | * | A40-0948-08 | REAR PANEL | | |
| 210 | 30 | | B43-1203-04 | KENWOOD BADGE | | |
| - | | | B44-6005-04 | UPC CODE LABEL | E | |
| - | | | B44-6006-04 | UPC CODE LABEL | | |
| - | | | B46-0100-20 | WARRANTY CARD | | |
| - | | | B46-0172-03 | QUESTIONAIRE CARD | WT | |
| - | | | B46-0182-04 | ID CARD | E | |
| - | | | B58-0881-04 | CAUTION CARD | | |
| - | | * | B64-0102-00 | INSTRUCTION MANUAL | | |
| 214 | 30 | | D39-0202-08 | DAMPER (OIL) | | |
| 215 | 1P | * | E30-3678-05 | CORD WITH CONNECTOR | | |
| 216 | 1P | | E30-3834-15 | CORD WITH CASE(EXTENSION CORD) | | |
| 224 | 20 | | G01-2317-08 | TENSION SP | | |
| - | | * | H01-9275-08 | ITEM CARTON BOX(CHANGER) | | |
| - | | * | H03-3319-08 | OUTER PACKING CASE | | |
| - | | | H10-3767-08 | POLYSTYRENE FOAMED FIXTURE(BOT | | |
| - | | * | H10-4381-08 | POLYSTYRENE FOAMED FIXTURE(UPP | | |
| - | | | H25-0336-04 | PROTECTION BAG (170X250X0.03) | | |
| 231 | 10 | | J19-3110-08 | DISC MAGAZINE | | |
| 232 | 10 | | J19-3174-08 | MOUNTING FITTING (CHANGER) | | |
| 234 | 1P | | J21-5462-08 | MOUNTING PLATE (CHANGER) | | |
| 236 | 10 | | J21-7075-08 | BRACKET | | |
| 237 | 2P | | J25-6030-08 | FLEXIBLE BOARD (RF) | | |
| 238 | 2P | | J25-6031-08 | FLEXIBLE BOARD (ELV) | | |
| 241 | 1P | | N99-0285-08 | SCREW SET | | |
| 242 | 20 | | N19-2014-08 | WASHER (TEFLON) | | |
| B | | | N30-3005-45 | PAN HEAD MACHINE SCREW | | |
| P | 3P | | N09-1414-05 | SCREW (φ2.6×5) | | |
| R | 2P | | N09-1962-05 | SCREW (φ2.6×6) | | |
| **SUB CIRCUIT UNIT (X13-6840-00)** | | | | | | |
| C1 | | * | C90-2578-05 | ELECTRO 820UF 16WV | | |
| C2 | | | CE04NW0J101M | ELECTRO 100UF 6.3WV | | |
| C3 | | | CE04NW1H010M | ELECTOR 1.0UF 50WV | | |
| C4 -9 | | | CK73EB1H103K | CHIP C 0.01UF K | | |
| X1 | | | L78-0501-05 | RESONATOR | | |
| R1 -8 | | | RK73EB2B101J | CHIP R 100 J 1/8W | | |
| R9 | | | RK73EB2B222J | CHIP R 2.2K J 1/8W | | |
| R10 | | | RK73EB2B473J | CHIP R 47K J 1/8W | | |
| R11 | | | RK73EB2B101J | CHIP R 100 J 1/8W | | |
| R12, 17, 18 | | | RK73EB2B472J | CHIP R 4.7K J 1/8W | | |
| R13 | | | RK73EB2B222J | CHIP R 2.2K J 1/8W | | |
| R14 | | | RK73EB2B104J | CHIP R 100K J 1/8W | | |
| R15 -16 | | | RK73EB2B101J | CHIP R 100 J 1/8W | | |
| R19 ,20 | | | RK73EB2B104J | CHIP R 100K J 1/8W | | |
| R21 ,22 | | | RK73EB2B101J | CHIP R 100 J 1/8W | | |
| R23 ,24 | | | RK73EB2B104J | CHIP R 100K J 1/8W | | |
| R25 | | | RK73EB2B184J | CHIP R 180K J 1/8W | | |

E: Scandinavia & Europe K: USA P: Canada W:Europe
Y: PX(Far East, Hawaii) T: England M: Other Areas
Y: AAFES(Europe) X: Australia

⚠ indicates safety critical components.

# PARTS LIST

* New Parts
Parts without Parts No. are not supplied.
Les articles non mentionnes dans le Parts No. ne sont pas fournis.
Telle ohne Parts No. werden nicht geliefert.

| Ref. No. 参照番号 | Address 位置 | New Parts 新 | Parts No. 部品番号 | Description 部品名／規格 | Destination 仕向 | Remarks 備考 |
|---|---|---|---|---|---|---|
| D1 | | | ERA15-01Y1 | DIODE | | |
| D2 ,3 | | | MA110 | DIODE | | |
| IC1 | | | TA78DS05P | IC(VOLTAGE REGULATOR/ +5V) | | |
| IC2 | | | TC74HC04AF | IC(INVERTER) | | |
| IC3 | | | PST529F-MT | IC | | |
| IC4 | | * | 75006GB-552-3B4 | IC | | |
| IC5 | | | TC74HC164AF | IC | | |
| IC6 | | | TC74HC125AF | IC | | |
| Q1 | | | DTC124EK | DIGITAL TRANSISTOR | | |
| Q2 | | | DTA124EK | DIGITAL TRANSISTOR | | |
| Q3 | | | DTC124EK | DIGITAL TRANSISTOR | | |
| Q4 ,5 | | | DTA124EK | DIGITAL TRANSISTOR | | |
| Q6 | | | DTC124EK | DIGITAL TRANSISTOR | | |
| Q7 | | | 2SB873 | TRANSISTOR | | |
| Q8 ,9 | | | DTC124EK | DIGITAL TRANSISTOR | | |
| **CD PLAYER (W03-318X-XX) 4-XX:E, 5-XX:W, 6-XX:T** | | | | | | |
| C1 | | | CK73EB1H333K | CHIP C 0.033UF K | | |
| C2 | | | CE04NW0J101M | ELECTRO 100UF 6.3WV | | |
| C3 | | | CK73EB1H333K | CHIP C 0.033UF K | | |
| C4 | | | CK41DY1C103K | CYLND CHIP C 0.010UF K | | |
| C5 | | | CE04NW0J101M | ELECTRO 100UF 6.3WV | | |
| C6 | | | CE04NW0J470M | ELECTRO 47UF 6.3WV | | |
| C7 | | | CE04NW0J331M | ELECTRO 330UF 6.3WV | | |
| C8 | | | CK73EB1H183K | CHIP C 0.018UF K | | |
| C9 | | | CE04NW0J101M | ELECTRO 100UF 6.3WV | | |
| C10 | | | CE04NW1HR47M | ELECTRO 0.47UF 50WV | | |
| C11 | | | CK41DY1C103K | CYLND CHIP C 0.010UF K | | |
| C12 | | | CK73EB1H183K | CHIP C 0.018UF K | | |
| C13 | | | CK73FB1H222K | CHIP C 2200PF K | | |
| C14 ,15 | | | CK73EB1E104K | CHIP C 0.10UF K | | |
| C16 ,17 | | | CE04NW0J331M | ELECTRO 330UF 6.3WV | | |
| C18 | | | CC73FSL101J | CHIP C 330UF | | |
| C19 | | | CE04NW1E3R3M | ELECTRO 3.3UF 25WV | | |
| C20 ,21 | | | CK73EB1E104K | CHIP C 0.10UF K | | |
| C22 | | | CC73FCH1H330J | CHIP C 33PF J | | |
| C23 | | | CK73EB1E104K | CHIP C 0.10UF K | | |
| C24 | | | CK73FF1H473K | CHIP C 0.047UF K | | |
| C25 | | | CE04NW1H2R2M | ELECTRO 2.2UF 50WV | | |
| C26 | | | CK73EB1E683K | CHIP C 0.068UF K | | |
| C27 ,28 | | | CE04NW0J101M | ELECTRO 100UF 6.3WV | | |
| C29 | | | CE04NW0J100M | ELECTRO 10UF 6.3WV | | |
| C30 | | | CK73FB1H223K | CHIP C 0.022UF K | | |
| C31 | | | CK73FB1H472K | CHIP C 4700PF K | | |
| C32 | | | CK73EB1H333K | CHIP C 0.033UF K | | |
| C33 | | | CE04NW1HR47M | ELECTRO 0.47UF 50WV | | |
| C34 | | | CE04NW0J470M | ELECTRO 47UF 6.3WV | | |
| C35 | | | CK73FB1H102K | CHIP C 1000PF K | | |
| C36 | | | CE04NW0J331M | ELECTRO 330UF 6.3WV | | |
| C37 ,38 | | | CE04CW1H010M | ELECTRO 1.0UF 50WV | | |
| C39 | | | CE04NW0J100M | ELECTRO 10UF 6.3WV | | |
| C40 ,41 | | | CC73FCH1H330J | CHIP C 33PF J | | |
| C44 | | | CK73EB1E104K | CHIP C 0.10UF K | | |
| C47 | | | CK73FB1H102K | CHIP C 1000PF K | | |
| C48 ,49 | | | CE04NW0J331M | ELECTRO 330UF 6.3WV | | |
| C50 | | | CE04NW0J100M | ELECTRO 10UF 6.3WV | | |

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|---|---|---|---|---|---|---|
| C51 ,52 | | | C90-2514-08 | ELECTRO 3300UF 6.3WV | | |
| C53 | | | CE04NW0J331M | ELECTRO 330UF 6.3WV | | |
| C55 | | | CC73FSL1H150J | CHIP C 15PF J | | |
| C56 | | | CC73FSL1H101J | CHIP C 100PF J | | |
| C58 | | | CE04NW1H010M | ELECTOR 1.0UF 50WV | | |
| C59 | | | CC73FSL1H101J | CHIP C 100PF J | | |
| C60 | | | CC73FB1H103K | CHIP C 0.010UF K | | |
| C100 | | | CC73FCH1H220J | CHIP C 22PF J | | |
| C101 | | | C93-1015-08 | CHIP C 0.10UF 125WV | | |
| C102 | | | CC73FB1H681K | CHIP C 680PF K | | |
| C103 | | | CC73FB1H821K | CHIP C 820PF K | | |
| C104 | | | CC73FSL1H680J | CHIP C 68PF J | | |
| C105 | | | CK41DF1H223Z | CYLND CHIP C 0.022UF Z | | |
| C106 | | | CE04CW0J220M | ELECTRO 22UF 6.3WV | | |
| C107 | | | CC73FSL1H271J | CHIP C 270PF J | | |
| C150 | | | C92-1013-08 | ELECTRO 22UF 6.3WV | | |
| C200 | | | CC73FCH1E220J | CHIP C 22PF J | | |
| C201 | | | C93-1015-08 | CHIP C 0.10UF 125WV | | |
| C202 | | | CC73FB1H681K | CHIP C 680PF K | | |
| C203 | | | CC73FB1H821K | CHIP C 820PF K | | |
| C204 | | | CC73FSL1H680J | CHIP C 68PF J | | |
| C205 | | | CK41DF1H223Z | CYLND CHIP C 0.022UF Z | | |
| C206 | | | CE04CW0J220M | ELECTRO 22UF 6.3WV | | |
| C207 | | | CC73FSL1H271J | CHIP C 270PF J | | |
| C250 | | | C92-1013-08 | ELECTRO 22UFF 6.3WV | | |
| C301 | | | CE04NW0J331M | ELECTRO 330UF 6.3WV | | |
| C302-305 | | | CE04NW1H2R2M | ELECTRO 2.2UF 50WV | | |
| C306 | | | C91-0684-05 | CERAMIC 0.022UF K | | |
| C307,308 | | | C92-1014-08 | CERAMIC 0.22UF 50WV | | |
| C501,502 | | | CF92V1H104J | MF 0.10UF J | | |
| C503 | | | C90-1263-05 | ELECTRO 100UF 16WV | | |
| C505 | | | CK41DX1C472M | CYLND CHIP C 4700PF M | | |
| C506 | | | CE04NW1C100M | ELECTRO 10UF 16WV | | |
| C507 | | | CE04NW0J101M | ELECTRO 100UF 6.3WV | | |
| C508 | | | CK41DF1E223Z | CYLND CHIP C 0.022UF Z | | |
| C511 | | | CE04CW1H010M | ELECTRO 1.0UF 50WV | | |
| C512 | | | CE04NW1HR47M | ELECTRO 0.47UF 50WV | | |
| C513 | | | CF92V1H104J | MF 0.10UF J | | |
| C542 | | | C90-1263-05 | ELECTRO 100UF 16WV | | |
| C543 | | | CF92V1H104J | MF 0.10UF J | | |
| C546 | | | CE04NW0J100M | ELECTRO 10UF 6.3WV | | |
| C547 | | | C90-2515-08 | ELECTRO 0.22F 5.5WV | | |
| C548 | | | CF92V1H104J | MF 0.10UF J | | |
| C549 | | | CE04NW0J330M | ELECTRO 33UF 6.3WV | | |
| C551 | | | CK73EB1E104K | CHIP C 0.10UF K | | |
| C552 | | | CF92V1H104J | MF 0.10UF J | | |
| C701 | | | CF92V1H104J | MF 0.10UF J | | |
| C703 | | | CE04CW1H010M | ELECTRO 1.0UF 50WV | | |
| C705 | | | CK73EB1H223K | CHIP C 0.022UF K | | |
| C706 | | | C90-2516-08 | ELECTRO 560UF 6.3WV | | |
| C710 | | | C90-1732-08 | ELECTRO 330UF 16WV | | |
| C718 | | | CE04NW1C100M | ELECTRO 10UF 16WV | | |
| C719 | | | CE04NW0J330M | ELECTRO 33UF 6.3WV | | |
| C720 | | | C90-1733-08 | ELECTRO 3300UF 16WV | | |
| C721 | | | CK41DF1E223Z | CYLND CHIP C 0.022UF Z | | |

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|---|---|---|---|---|---|---|
| L1 | | | L40-2292-17 | SMALL FIXED INDUCTOR (2.2UF) | | |
| L3 | | | L40-2292-17 | SMALL FIXED INDUCTOR (2.2UF) | | |
| L4 | | | L39-0168-08 | COIL (1.0UH) | | |
| L7 ,8 | | | L39-0169-08 | COIL (2.2UH) | | |
| L10 | | | L40-2292-17 | SMALL FIXED INDUCTOR (2.2UH) | | |
| L11 | | | L39-0169-08 | COIL (2.2UH) | | |
| L101 | | | L39-0169-08 | COIL (2.2UH) | | |
| L201 | | | L39-0169-08 | COIL (2.2UH) | | |
| L301 | | | L39-0169-08 | COIL (2.2UH) | | |
| L501 | | | L40-2292-17 | SMALL FIXED INDUCTOR (2.2UH) | | |
| L504-507 | | | L40-2292-17 | SMALL FIXED INDUCTOR (2.2UH) | | |
| X2 | | | L77-1133-08 | CRYSTAL RESONATOR | | |
| X501 | | | L78-0250-08 | RESONATOR | | |
| JR1 | | | R92-0338-05 | CLYND CHIP R 0 OHM | | |
| JR2 | | | R92-0670-05 | CHIP R 0 OHM | | |
| JR550-552 | | | R92-0670-05 | CHIP R 0 OHM | | |
| R1 | | | RK73FB2A223J | CHIP R 22K J 1/10W | | |
| R2 | | | RK73FB2A103J | CHIP R 10K J 1/10W | | |
| R3 ,4 | | | RK73EB2B110J | CHIP R 11 J 1/8W | | |
| R5 | | | RK73FB2A102J | CHIP R 1.0K J 1/10W | | |
| R6 | | | RK73FB2A222J | CHIP R 2.2K J 1/10W | | |
| R7 | | | RK73FB2A133J | CHIP R 13K J 1/10W | | |
| R8 | | | RK73FB2A104J | CHIP R 100K J 1/10W | | |
| R9 | | | RK73FB2A113J | CHIP R 11K J 1/10W | | |
| R10 | | | RK73FB2A474J | CHIP R 470K J 1/10W | | |
| R11 -13 | | | RK73FB2A104J | CHIP R 100K J 1/10W | | |
| R14 | | | RK73FB2A334J | CHIP R 330K J 1/10W | | |
| R15 | | | RK73FB2A683J | CHIP R 68K J 1/10W | | |
| R16 | | | RK73FB2A124J | CHIP R 120K J 1/10W | | |
| R17 | | | RK73FB2A684J | CHIP R 680K J 1/10W | | |
| R18 | | | RK73FB2A822J | CHIP R 8.2K J 1/10W | | |
| R19 | | | RK73FB2A274J | CHIP R 270K J 1/10W | | |
| R20 | | | RK73FB2A104J | CHIP R 100K J 1/10W | | |
| R21 | | | RK73FB2A332J | CHIP R 3.3K J 1/10W | | |
| R22 | | | RK73FB2A103J | CHIP R 10K J 1/10W | | |
| R23 | | | RK73FB2A104J | CHIP R 100K J 1/10W | | |
| R24 | | | RK73FB2A203J | CHIP R 20K J 1/10W | | |
| R25 | | | RK73FB2A105J | CHIP R 1.0M J 1/10W | | |
| R27 | | | RK73FB2A103J | CHIP R 10K J 1/10W | | |
| R28 | | | RK73EB2B103J | CHIP R 10K J 1/8W | | |
| R29 | | | RK73FB2A104J | CHIP R 100K J 1/10W | | |
| R40 | | | RK73FB2A910J | CHIP R 91 J 1/10W | | |
| R41 | | | RK73FB2A102J | CHIP R 1.0K J 1/10W | | |
| R42 | | | RK73FB2A223J | CHIP R 22K J 1/10W | | |
| R43 | | | RK73FB2A102J | CHIP R 1.0K J 1/10W | | |
| R44 | | | RK73EB2B223J | CHIP R 22K J 1/8W | | |
| R45 | | | RK73FB2A100J | CHIP R 10 J 1/10W | | |
| R50 | | | RK73FB2A103J | CHIP R 10K J 1/10W | | |
| R51 | | | RD14DB2H3R3J | SMALL-RD 3.3 J 1/2W | | |
| R52 | | | RK73FB2A153J | CHIP R 15K J 1/10W | | |
| R53 | | | RK73EB2B3R3J | CHIP R 3.3 J 1/8W | | |
| R55 ,56 | | | RK73FB2A102J | CHIP R 1.0K J 1/10W | | |
| R58 | | | RK73FB2A103J | CHIP R 10K J 1/10W | | |
| R100 | | | R92-2007-08 | FIXED RESISTOR 1.0K 1/10W | | |

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|---|---|---|---|---|---|---|
| R101 | | | RK73EB2B565J | CHIP R 5.6M J 1/8W | | |
| R102 | | | R92-2003-08 | FIXED RESISTOR 16K 1/10W | | |
| R103 | | | R92-2004-08 | FIXED RESISTOR 22K 1/10W | | |
| R104 | | | R92-2005-08 | FIXED RESISTOR 47K 1/10W | | |
| R105 | | | R92-2006-08 | FIXED RESISTOR 15K 1/10W | | |
| R106 | | | R92-2054-08 | FIXED RESISTOR 1.8K 1/10W | | |
| R107 | | | RK73FB2A100J | CHIP R 10 J 1/10W | | |
| R108 | | | R92-2055-08 | FIXED RESISTOR 470 1/10W | | |
| R109 | | | RK73FB2A474J | CHIP R 470K J 1/10W | | |
| R110 | | | RK73FB2A472J | CHIP R 4.7K J 1/10W | | |
| R112 | | | RK73FB2A103J | CHIP R 10K J 1/10W | | |
| R113 | | | R92-2056-08 | FIXED RESISTOR 12K 1/10W | | |
| R114 | | | R92-2002-08 | FIXED RESISTOR 10K 1/10W | | |
| R115 | | | R92-2057-08 | FIXED RESISTOR 100 1/10W | | |
| R200 | | | R92-2058-08 | FIXED RESISTOR 1K 1/10W | | |
| R201 | | | RK73EB2B565J | CHIP R 5.6M J 1/8W | | |
| R202 | | | R92-2003-08 | FIXED RESISTOR 16K 1/10W | | |
| R203 | | | R92-2004-08 | FIXED RESISTOR 22K 1/10W | | |
| R204 | | | R92-2005-08 | FIXED RESISTOR 47K 1/10W | | |
| R205 | | | R92-2006-08 | FIXED RESISTOR 15K 1/10W | | |
| R206 | | | R92-2054-08 | FIXED RESISTOR 1.8K 1/10W | | |
| R207 | | | RK73EB2B100J | CHIP R 10 J 1/8W | | |
| R208 | | | R92-2055-08 | FIXED RESISTOR 470 1/10W | | |
| R209 | | | RK73FB2A474J | CHIP R 470K J 1/10W | | |
| R210 | | | RK73FB2A472J | CHIP R 4.7K J 1/10W | | |
| R212 | | | RK73FB2A103J | CHIP R 10K J 1/10W | | |
| R213 | | | R92-2056-08 | FIXEF RESISTOR 12K 1/10W | | |
| R214 | | | R92-2002-08 | FIXEF RESISTOR 10K 1/10W | | |
| R215 | | | R92-2057-08 | FIXEF RESISTOR 100 1/10W | | |
| R301 | | | RK73FB2A391J | CHIP R 390 J 1/10W | | |
| R304 | | | RK73FB2A104J | CHIP R 100K J 1/10W | | |
| R305 | | | RK73EB2B102J | CHIP R 1.0K J 1/8W | | |
| R307,308 | | | RK73EB2B100J | CHIP R 10 J 1/8W | | |
| R401-403 | | | RK73EB2B221J | CHIP R 220 J 1/8W | | |
| R502 | | | RK73EB2B103J | CHIP R 10K J 1/8W | | |
| R503 | | | RD41DB2B103J | CARBON 10K J 1/8W | | |
| R505 | | | RK73EB2B103J | CHIP R 10K J 1/8W | | |
| R506 | | | RK73EB2B472J | CHIP R 4.7K J 1/8W | | |
| R507 | | | RK73EB2B103J | CHIP R 10K J 1/8W | | |
| R508 | | | RK73FB2A103J | CHIP R 10K J 1/10W | | |
| R516 | | | RK73EB2B103J | CHIP R 10K J 1/8W | | |
| R518-521 | | | RK73EB2B103J | CHIP R 10K J 1/8W | | |
| R530 | | | RK73EB2B221J | CHIP R 220 J 1/8W | | |
| R531 | | | RD41DB2B102J | CARBON 1K J 1/8W | | |
| R533 | | | RK73EB2B103J | CHIP R 10K J 1/8W | | |
| R534-537 | | | RK73EB2B104J | CHIP R 100K J 1/8W | | |
| R540 | | | R92-2059-08 | CARBN 47K J 1/4W | | |
| R541,542 | | | RK73EB2B103J | CHIP R 10K J 1/8W | | |
| R543 | | | RD41DB2B102J | CARBON 1K J 1/8W | | |
| R544,545 | | | RK73FB2A101J | CHIP R 100 J 1/10W | | |
| R704 | | | RK73EB2B102J | CHIP R 1.0K J 1/8W | | |
| R705 | | | RK73EB2B222J | CHIP R 2.2K J 1/8W | | |
| R706 | | | RK73EB2B473J | CHIP R 47K J 1/8W | | |
| R707 | | | RK73EB2B471J | CHIP R 470 J 1/8W | | |
| R708 | | | RK73EB2B222J | CHIP R 2.2K J 1/8W | | |

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|---|---|---|---|---|---|---|
| R709 | | | RK73EB2B102J | CHIP R 1.0K J 1/8W | | |
| R710 | | | RK73EB2B473J | CHIP R 47K J 1/8W | | |
| R711 | | | RK73EB2B222J | CHIP R 2.2K J 1/8W | | |
| R713 | | | R92-2009-08 | FIXED RESISTOR 1.0 1/2W | | |
| RV1 | | | R12-3097-05 | TRIMMING POT. 22K | | |
| RV2 | | | R12-3099-05 | TRIMMING POT. 47K | | |
| RV3 ,4 | | | R12-3097-05 | TRIMMING POT. 22K | | |
| RV5 | | | R12-1067-05 | TRIMMING POT. 2.2K | | |
| RY300 | | | S51-2086-08 | RELAY | | |
| S902 | | | S46-1107-08 | LEAF SWITCH | | |
| SW101 | | | S59-1085-08 | SWITCH | | |
| SW102 | | | S50-1050-08 | SENSITIVE SWITCH | | |
| SW103 | | | S50-1051-08 | SENSITIVE SWITCH | | |
| SW104-107 | | | S50-1052-08 | SENSITIVE SWITCH | | |
| D1 | | | 1S2835 | DIODE | | |
| D301 | | | 1S2835 | DIODE | | |
| D302 | | | 1S2837 | DIODE | | |
| D303 | | | 1SS119 | DIODE | | |
| D304 | | | 1S2837 | DIODE | | |
| D401,402 | | | TLR123 | LED | | |
| D403-405 | | | 1S2835 | DIODE | | |
| D501 | | | RD9.1ES(B1) | ZENER DIODE | | |
| D502 | | | RD6.2ES(B2) | ZENER DIODE | | |
| D503 | | | 1S2835 | DIODE | | |
| D505 | | | 1S2835 | DIODE | | |
| D507 | | | RD5.1ES(B2) | ZENER DIODE | | |
| D508 | | | 1SS119 | DIODE | | |
| D509 | | | RD13ES(B1) | ZENER DIODE | | |
| D511-516 | | | RD5.1ES(B2) | ZENER DIODE | | |
| D518 | | | 1SS119 | DIODE | | |
| D703 | | | DLS1585 | DIODE | | |
| D704 | | | HZ6A2L | DIODE | | |
| D705 | | | RD6.2ES(B2) | ZENER DIODE | | |
| D706 | | | RD5.1ES(B2) | ZENER DIODE | | |
| D707 | | | RD18ES(B1) | ZENER DIODE | | |
| D708 | | | DLS1585 | DIODE | | |
| D709 | | | RD5.1ES(B2) | ZENER DIODE | | |
| D710 | | | DLS1585 | ZENER DIODE | | |
| IC1 | | | CXA1081Q | IC(SERVO SIGNAL PROCESSOR) | | |
| IC2 | | | CXA1182Q-Z | IC(SERVO SIGNAL PROCESSOR) | | |
| IC3 | | | CXD1125Q | IC(DIGITAL SIGNAL PROCESSOR) | | |
| IC4 | | | MB88505H-1023M | IC(MICROPROCESSOR) | | |
| IC5 | | | LA-6530 | IC | | |
| IC6 | | | CXK5816M-15L | IC(16K SRAM SLOW) | | |
| IC7 | | | CXD1316DM | IC(DIGITAL FILTER) | | |
| IC301 | | | CXD1161M-2 | IC(D/A CONVERTER) | | |
| IC302 | | | UPC4558G2 | IC | | |
| IC303 | | | LA6462M | IC(OP AMP X2) | | |
| IC304 | | | NJM4560M | IC(OP AMP X2) | | |
| IC501 | | | LB1649 | IC(MOTOR DRIVER) | | |
| IC502 | | | S-8054HN-CB | IC(VOLTAGE DETECTOR) | | |
| IC503 | | | CX7991 | IC | | |
| IC505 | | | 7508HG-593-22 | IC(MICROPROCESSOR) | | |
| IC507 | | | LB1649 | IC(MOTOR DRIVER) | | |

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|---|---|---|---|---|---|---|
| Q1 | | | 2SB1122 | TRANSISTOR | | |
| Q2 | | | 2SB1115A | TRANSISTOR | | |
| Q3 | | | 2SD1622 | TRANSISTOR | | |
| Q4 | | | 2SB1115A | TRANSISTOR | | |
| Q5 | | | 2SD1622 | TRANSISTOR | | |
| Q6 | | | DTC124EK | DIGITAL TRANSISTOR | | |
| Q8 | | | 2SC2712G | TRANSISTOR | | |
| Q9 | | | DTC114EK | DIGITAL TRANSISTOR | | |
| Q10 | | | DTC144EK | DIGITAL TRANSISTOR | | |
| Q101 | | | 2SC3326N | TRANSISTOR | | |
| Q201 | | | 2SC3326N | TRANSISTOR | | |
| Q301 | | | DTA124EK | DIGITAL TRANSISTOR | | |
| Q302 | | | DTC124EK | DIGITAL TRANSISTOR | | |
| Q303 | | | 2SA1342 | TRANSISTOR | | |
| Q304,305 | | | DTC124EK | DIGITAL TRANSISTOR | | |
| Q401,402 | | | PH102 | TRANSISTOR | | |
| Q403 | | | GP-1S03 | TRANSISTOR | | |
| Q502 | | | 2SA1162 | TRANSISTOR | | |
| Q505 | | | 2SA1162 | TRANSISTOR | | |
| Q506 | | | 2SA1162Y | TRANSISTOR | | |
| Q511 | | | 2SA1342 | TRANSISTOR | | |
| Q512 | | | DTC124EK | DIGITAL TRANSISTOR | | |
| Q513 | | | 2SA1342 | TRANSISTOR | | |
| Q514 | | | 2SC2712Y | TRANSISTOR | | |
| Q515 | | | 2SA1342 | TRANSISTOR | | |
| Q516 | | | 2SC2712Y | TRANSISTOR | | |
| Q517 | | | 2SA1342 | TRANSISTOR | | |
| Q518,519 | | | DTC124EK | DIGITAL TRANSISTOR | | |
| Q520 | | | 2SA1342 | TRANSISTOR | | |
| Q523 | | | 2SC2712G | TRANSISTOR | | |
| Q524 | | | 2SA1342 | TRANSISTOR | | |
| Q704 | | | DTC124EK | DIGITAL TRANSISTOR | | |
| Q705 | | | 2SB1122 | TRANSISTOR | | |
| Q706 | | | 2SC2712G | TRANSISTOR | | |
| Q707 | | | 2SD1622 | TRANSISTOR | | |
| Q710 | | | DTC114EK | DIGITAL TRANSISTOR | | |
| TH1 ,2 | | | ERT-D2FHJ802T | THERMISTOR | | |
| THP501 | | | PTH59F04BG222TS | THERMISTOR | | |
| DD1 | | | W02-0960-08 | DC-DC CONVERTOR | | |
| **MECHANISM ASS'Y** | | | | | | |
| A | 2I | | N09-1304-05 | SCREW | | |
| B | 2I | | N52-2006-41 | SCREW | | |
| C | 3I | | N39-2030-41 | SCREW | | |
| D | 3I | | N09-1943-08 | SCREW | | |
| E | 1J | | N09-1944-08 | SCREW | | |
| F | 2B | | N09-2639-08 | SCREW | | |
| G | | | N30-2603-46 | PAN HEAD MACHINE SCREW | | |
| H | | | N30-3003-45 | PAN HEAD MACHINE SCREW | | |
| I | | | N30-2003-45 | PAN HEAD MACHINE SCREW | | |
| J | | | N35-2008-45 | BINDING HEAD MACHINE SCREW | | |
| K | | | N35-2603-45 | BINDING HEAD MACHINE SCREW | | |
| L | | | N35-2606-45 | BINDING HEAD MACHINE SCREW | | |
| M | | | N35-3005-45 | BINDING HEAD MACHINE SCREW | | |
| N | | | N52-2605-46 | PAN HEAD TAPPING SCREW | | |

E: Scandinavia & Europe K: USA P: Canada W: Europe
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⚠ indicates safety critical components.

# PARTS LIST

* New Parts
Parts without Parts No. are not supplied.
Les articles non mentionnes dans le Parts No. ne sont pas fournis.
Telle ohne Parts No. werden nicht geliefert.

| Ref. No. 参照番号 | Address 位置 | New Parts 新 | Parts No. 部品番号 | Description 部品名／規格 | Destination 仕向 | Remarks 備考 |
|---|---|---|---|---|---|---|
| P | | | N52-2605-46 | PAN HEAD TAPPING SCREW | | |
| Q | | | N84-2004-45 | SCREW | | |
| R | | | N84-2004-46 | SCREW | | |
| S | | | N84-2010-46 | SCREW | | |
| T | | | N84-2605-45 | SCREW | | |
| U | | | N84-2605-45 | SCREW | | |
| V | | | N84-2605-46 | SCREW | | |
| W | | | N90-2005-46 | TP HEAD MACHINE SCREW | | |
| X | | | N39-2020-41 | SCREW | | |
| Y | 1I | | N09-4011-08 | SCREW | | |
| 5 | 2I | | A15-0601-08 | FRAME ASSY (MD SLED) | | |
| 6 | 2A | | B07-1860-08 | ESCUTCHEON | | |
| 18 | 2G | | D10-2265-08 | LEVER ASSY (SOFT EJECT) | | |
| 19 | 2G | | D10-2266-08 | LEVER (BACK LOCK HOOK | | |
| 23 | 2E | | D10-2268-08 | LEVER (DISC LINK) | | |
| 24 | 1G | | D10-2269-08 | SLIDER ASSY (LINEAR) | | |
| 25 | 3I | | D13-0671-18 | GEAR (B) | | |
| 26 | 2A | | D13-0760-08 | GEAR (ELEVATOR) | | |
| 30 | 1A | | D13-0761-08 | GEAR (ELEVATOR) | | |
| 31 | 1B | | D13-0762-08 | GEAR (ELEVATOR) | | |
| 32 | 2B | | D13-0763-08 | GEAR (MOTOR) | | |
| 33 | 2C | | D13-0764-08 | GEAR (E) | | |
| 34 | 1D | | D13-0765-08 | GEAR (F) | | |
| 35 | 2D | | D13-0766-08 | GEAR (A) | | |
| 36 | 2D | | D13-0767-08 | GEAR (B) | | |
| 37 | 1F | | D13-0768-08 | GEAR (G) (ROLLER) | | |
| 38 | 2F | | D13-0769-08 | GEAR (ROLLER STEP) | | |
| 39 | 2G | | D13-0770-08 | GEAR | | |
| 43 | 2G | | D13-0771-08 | GEAR (WORM WHEEL) | | |
| 44 | 2G | | D13-0772-08 | GEAR ASSY | | |
| 45 | 2G,2H | | D13-0773-08 | GEAR (EJECT CAM) | | |
| 46 | 2C,2E | | D14-0269-08 | ROLLER (LOWER) | | |
| 50 | 2A | | D14-0289-08 | ROLLER (MAGAZINE) | | |
| 51 | 1D | | D14-0290-08 | ROLLER (IDEL) | | |
| 52 | 2E | | D14-0291-08 | ROLLER ASSY (UPPER) | | |
| 53 | 2G | | D14-0292-08 | ROLLER (A) | | |
| 54 | 2G | | D14-0293-08 | ROLLER | | |
| 59 | 1G | | D14-0295-08 | ROLLER | | |
| 62 | 2C | | D21-1507-08 | SHAFT ASSY (POLLER) | | |
| 65 | 2D | | D21-1508-08 | SHAFT (DISC CHUCK) | | |
| 66 | 2F | | D21-1509-08 | SHAFT (SIDE ROLLER) | | |
| 67 | 2F | | D21-1510-08 | SHAFT ASSY (UPPER ROLLER) | | |
| 68 | 1G | | D21-1511-08 | SHAFT (LINEAR SLIDER) | | |
| 74 | 2I | | D23-0232-08 | RETAINER ASSY | | |
| 78 | 2J | | D23-0233-08 | RETAINER | | |
| 79 | 2I | | D23-0234-08 | RETAINER | | |
| 80 | 2A,2B | | D23-0239-08 | RETAINER | | |
| 81 | 2C | | D23-0240-08 | RETAINER (MAIN ROLLER) | | |
| 82 | 2C | | D23-0241-08 | RETAINER | | |
| 84 | 2C | | D29-0017-08 | SCREW ASSY (FEED) | | |
| 90 | 2I | | F07-0523-08 | COVER | | |
| 95 | 2D | | G01-2318-08 | TENSION SP | | |
| 96 | 3D | | G01-2319-08 | TENSION SP | | |
| 97 | 2E,2F | | G01-2320-08 | TENSION SP | | |
| 98 | 1G | | G01-2321-08 | COMPRESSION SP | | |

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| Ref. No. 参照番号 | Address 位置 | New Parts 新 | Parts No. 部品番号 | Description 部品名／規格 | Destination 仕向 | Remarks 備考 |
|---|---|---|---|---|---|---|
| 99 | 2G | | G01-2322-08 | TENSION SP | | |
| 102 | 2G | | G01-2323-08 | TENSION SP | | |
| 103 | 2G | | G01-2324-08 | TENSION SP | | |
| 104 | 2C,2D | | G01-2325-08 | COMPRESSION SP | | |
| 105 | 1I,1J | | G02-0466-08 | LEAF SPRING ASSY | | |
| 108 | 1A | | G02-0906-08 | LEAF SPRING | | |
| 109 | 1A | | G02-0907-08 | LEAF SPRING | | |
| 110 | 1A | | G02-0908-08 | LEAF SPRING | | |
| 111 | 2C | | G02-0909-08 | LEAF SPRING | | |
| 112 | 2H | | G11-1315-08 | CUSHION | | |
| 115 | 2B | | G11-1323-08 | CUSHION | | |
| 116 | 2C | | G11-1323-08 | CUSHION | | |
| 117 | 3H | | G11-1323-08 | CUSHION | | |
| 118 | 2D | | G11-1427-08 | CUSHION | | |
| 121 | 3D | | J11-0138-08 | CLAMPER | | |
| 122 | 2B | | J11-0139-08 | CLAMPER | | |
| 124 | 3D | | J19-3103-08 | BRACKET | | |
| 131 | 2J | | J25-7057-08 | PRINTED WIRING BOARD (FLEXIBLE | | |
| 142 | 3D | | J25-6047-08 | PRINTED WIRING BOARD | | |
| 143 | 2H | | J25-6048-08 | PRINTED WIRING BOARD | | |
| 150 | 3H | | J25-7056-08 | PRINTED WIRING BOARD | | |
| 151 | 2J | | J90-0705-08 | GUIDE | | |
| 152 | 2F | | J90-0628-08 | GUIDE | | |
| 153 | 2J | | J91-0346-08 | PICK UP | | |
| 155 | 2A | | K24-0054-08 | KNOB (EJECT) | | |
| 156 | 2I | | E29-0331-08 | LEAD PLATE | | |
| 158 | 2C | | N14-0185-08 | NUT | | |
| 159 | 3I | | N19-1120-08 | FLAT WASHER | | |
| 160 | 2E | | N19-1189-08 | FLAT WASHER (0.5X5.5X2.1) | | |
| 161 | 2C | | N19-1190-08 | FLAT WASHER | | |
| 162 | 2D | | N19-1192-08 | FLAT WASHER | | |
| 163 | 2A | | N24-3015-45 | E TYPE RETAINING RING (φ1.5) | | |
| 164 | 3D | | N24-3015-45 | E TYPE RETAINING RING (φ1.5) | | |
| 165 | 3G | | N24-3015-45 | E TYPE RETAINING RING (φ1.5) | | |
| 166 | 1F,2F | | N24-3015-45 | E TYPE RETAINING RING (φ1.5) | | |
| 167 | 2D | | N24-3020-45 | E TYPE RETAINING RING (φ2.0) | | |
| 168 | 2G | | N24-3020-45 | E TYPE RETAINING RING (φ2.0) | | |
| 169 | 1B | | N24-3025-45 | E TYPE RETAINING RING | | |
| 171 | 2I | | G01-2523-08 | SPRING,COMPRESSION | | |
| 172 | 2I | | D32-0601-08 | STOPPER,RING | | |
| 173 | 2I | | J90-0704-08 | RING,CENTER | | |
| M1 | 2H | | T42-0512-08 | MOTOR ASSY | | |
| M2 | 3C | | T42-0511-08 | DC MOTOR ASSY | | |
| M3 | 2B | | T42-0510-08 | DC MOTOR | | |
| M902 | 2J | | T42-0709-08 | MOTOR ASSY | | |
| S902 | 3J | | S46-1107-08 | LEAF SWITCH (LIMIT) | | |
| SW105 | 2G | | S50-1052-08 | MICRO SWITCH (LOT) | | |
| SW106 | 2G | | S50-1052-08 | MICRO SWITCH (PST) | | |
| SW107 | 2G | | S50-1052-08 | MICRO SWITCH (EJECT) | | |

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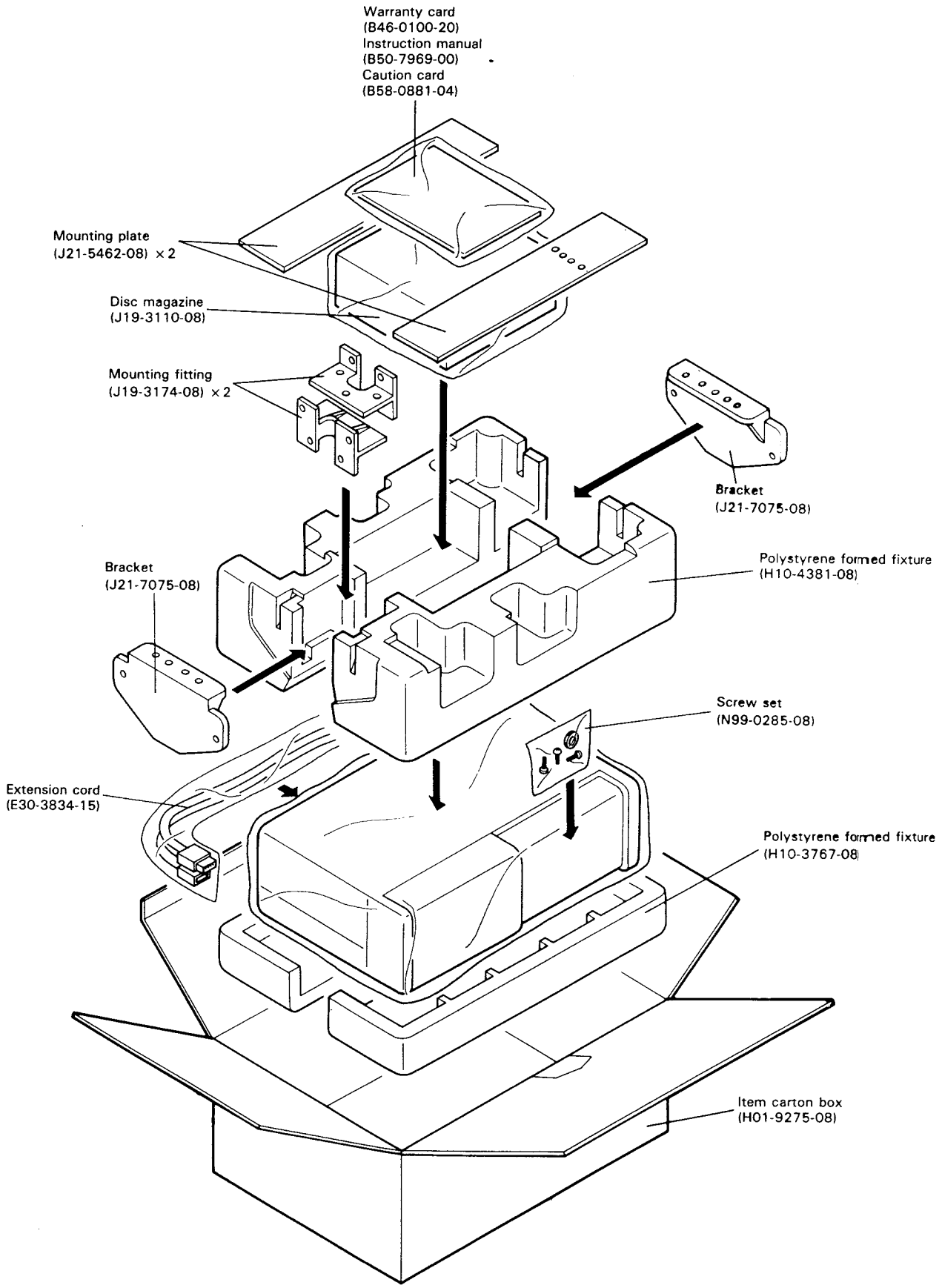
# PACKING


Warranty card
(B46-0100-20)
Instruction manual
(B50-7969-00)
Caution card
(B58-0881-04)
Mounting plate
(J21-5462-08) x 2
Disc magazine
(J19-3110-08)
Mounting fitting
(J19-3174-08) x 2
Bracket
(J21-7075-08)
Polystyrene formed fixture
(H10-4381-08)
Bracket
(J21-7075-08)
Screw set
(N99-0285-08)
Extension cord
(E30-3834-15)
Polystyrene formed fixture
(H10-3767-08)
Item carton box
(H01-9275-08)

# SPECIFICATIONS

**[KDC-C301]**

| | |
|---|---|
| Laser Diode | GaAlAs (λ = 780 nm) |
| Digital Filter (D/A) | 16 bit (Linear) |
| Sampling Frequency | 44.1 kHz |
| Conversion Rate | 176.4 kHz (4 Times Over Sampling) |
| Spindle Speed | 500 ~ 200 rpm (CLV) |
| Wow & Flutter | Below Measurable Limit |
| Frequency Response (± 1 dB) | 5 Hz ~ 20 kHz |
| Total Harmonic Distortion (1 kHz) | 0.005% |
| Signal to Noise Ratio | 85 dB |
| Dynamic Range | 85 dB |
| Channel Separation | 85 dB |

Laser Diode Properties

| | |
|---|---|
| Material | GaAlAs |
| Wavelength | 780 nm |
| Emission Duration | Continuous |
| Laser Output Power | Less than 44.6 μW |

* This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block.

**General**

| | |
|---|---|
| Operating Voltage | 14.4 V (11 ~ 16 V) |
| Current Consumption | 0.8 A |
| Operating Temperature | −10 ~ 50 °C |
| Installation Size (W × H × D) | 302 × 100 × 209 mm (11-7/8 × 3-15/16 × 8-1/4 in.) |
| Weight | 3.1 kg (6.6 lb) |

KENWOOD follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

KENWOOD poursuit une politique de progrès constants en ce qui concerne le développement. Pour cette raison, les spécifications sont sujettes à modifications sans préavis.

KENWOOD strebt ständige, Verbesserungen in der Entwicklung an. Daher bleiben Änderungen der technischen Daten jederzeit vorbehalten.

**Note:**

Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on, the Europe (E) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

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